

## Appendix I. Chapter 61/61A: Classified Forest Land

### Number of Certified Acres & Plans by Community

Communities	Certified Acres*	# Plans*
Adams	631.00	3
Alford	1,275.61	28
Ashfield	8,537.58	142
Becket	2,563.83	51
Bernardston	999.45	33
Blandford	4,572.60	60
Buckland	3,163.21	87
Charlemont	3,794.65	61
Cheshire	1,259.10	15
Chester	7,899.94	100
Chesterfield	4,295.34	82
Clarksburg	195.00	2
Colrain	5,639.67	99
Conway	4,018.79	92
Cummington	2,702.24	44
Dalton	1,839.73	31
Deerfield	3,009.66	70
Easthampton	158.69	6
Egremont	799.76	27
Florida	748.30	7
Gill	1,390.82	31
Goshen	1,907.54	53
Granville	4,994.57	64
Great Barrington	1,807.47	67
Greenfield	610.50	31
Hancock	2,053.35	31
Hatfield	540.24	30
Hawley	3,872.24	53
Heath	4,877.16	69
Hinsdale	1,102.42	21
Huntington	2,462.29	30
Lanesborough	3,477.31	57
Lee	2,010.02	39
Lenox	628.52	33
Leyden	1,002.56	36
Middlefield	2,286.47	32
Monroe	324.42	5
Monterey	2,390.43	68
Montgomery	699.19	10
Mount Washington	274.20	5
N. Adams	47.10	4
New Ashford	23.56	2

New Marlborough	4,026.00	73
Northampton	1,554.97	39
Northfield	1,904.44	63
Otis	1,699.63	45
Peru	2,443.89	44
Pittsfield	1,383.80	26
Plainfield	3,155.85	93
Richmond	1,717.97	53
Rowe	967.94	32
Russell	2,451.61	27
Sandisfield	7,671.70	78
Savoy	737.42	22
Sheffield	3,547.14	80
Shelburne	2,754.22	86
Southampton	1,613.89	32
Southwick	1,151.04	22
Stockbridge	1,992.34	64
Tolland	656.78	7
Tyringham	2,944.03	43
W. Stockbridge	457.07	16
Washington	603.59	13
Westfield	1,429.15	54
Westhampton	2,963.56	59
Whately	1,604.82	38
Williamsburg	2,838.70	58
Williamstown	5,470.49	82
Windsor	2,820.91	53
Worthington	3,989.95	82
<b>TOTALS:</b>	<b>163,439.43</b>	<b>3,195</b>

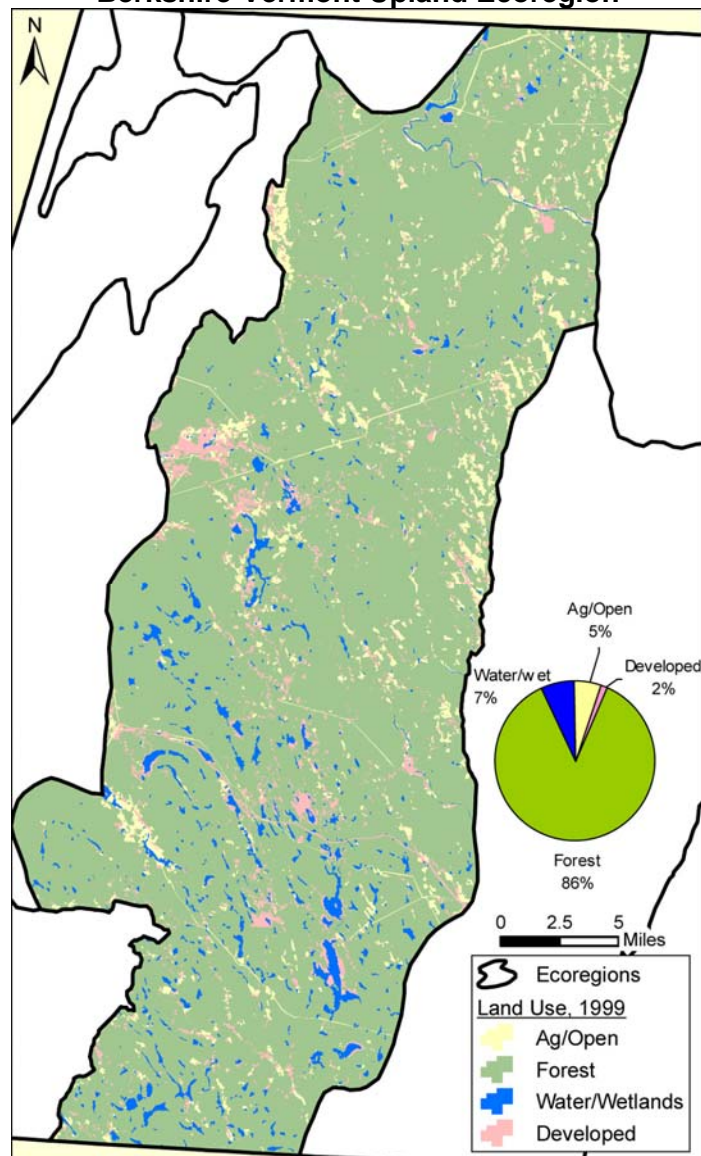
\* As of May 3, 2005

## Appendix II. Land Use (Berkshire Ecoregions)

### Berkshire-Vermont Upland Ecoregion

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	11,605	<b>25,068</b>	10,981	<b>23,729</b>
	Pasture	8,212		6,902	
	Open Areas with no vegetation	5,007		5,447	
	Woody Perennial	244		399	
Developed	Mining	522	<b>16,610</b>	463	<b>20,403</b>
	Participation Recreation	1,302		1,403	
	Spectator Recreation	-		-	
	Water Based Recreation	43		42	
	Multifamily Residential	32		34	
	High Density Residential	687		726	
	Medium Density Residential	1,666		1,774	
	Low Density Residential	9,994		13,537	
	Commercial	465		519	
	Industrial	210		264	
	Urban Open	859		861	
	Transportation	685		710	
	Waste Disposal	144		70	
Forest	Forest	377,097	<b>377,097</b>	374,492	<b>374,492</b>
Water/wet	Nonforested Wetland	8,229	<b>15,172</b>	8,266	<b>15,324</b>
	Saltwater Wetland	-		-	
	Water	6,943		7,058	
missing data (approximate)		1.113	-	1	-
<b>Total</b>		<b>433,948</b>		<b>433,948</b>	

### Berkshire-Vermont Upland Ecoregion



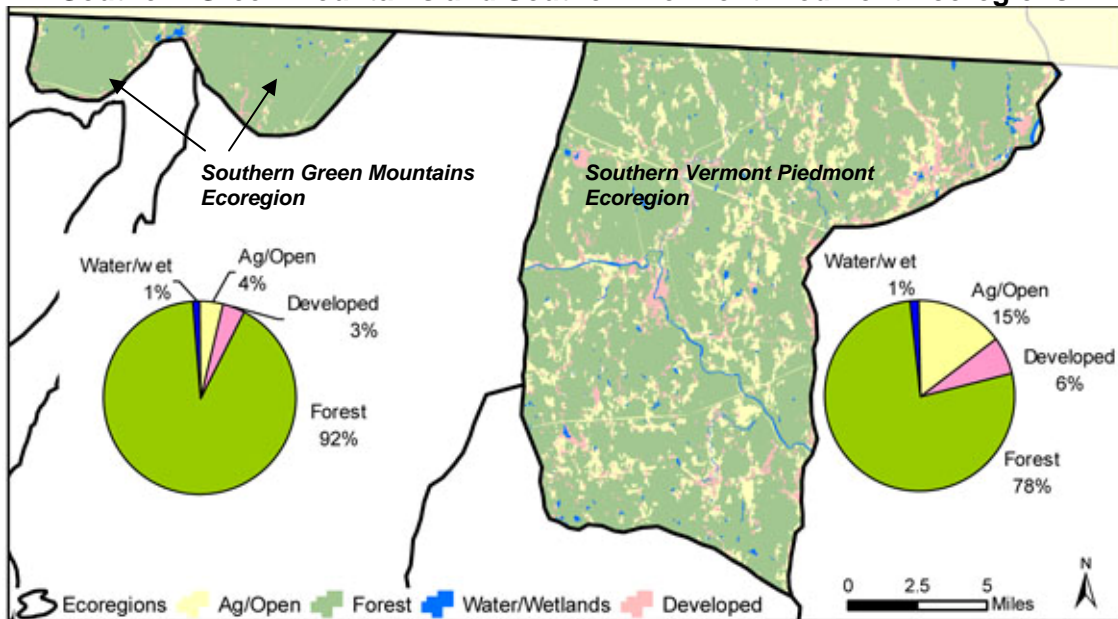
### Southern Vermont Piedmont Ecoregion

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	10,681	<b>22,028</b>	9,753	<b>20,623</b>
	Pasture	7,349		5,968	
	Open Areas with no vegetation	2,753		3,552	
	Woody Perennial	1,246		1,349	
Developed	Mining	280	<b>6,909</b>	304	<b>8,987</b>
	Participation Recreation	503		637	
	Spectator Recreation	12		-	
	Water Based Recreation	6		6	
	Multifamily Residential	19		22	
	High Density Residential	97		101	
	Medium Density Residential	782		814	
	Low Density Residential	4,146		5,993	
	Commercial	210		269	
	Industrial	95		120	
	Urban Open	360		294	
	Transportation	344		357	
	Waste Disposal	56		70	
Forest	Forest	107,966	<b>107,966</b>	107,193	<b>107,193</b>
Water/wet	Nonforested Wetland	668	<b>1,669</b>	785	<b>1,770</b>
	Saltwater Wetland	-		-	
	Water	1,002		984	
missing data (approximate)		1.521	-	1.521	-
<b>Total</b>		<b>138,574</b>		<b>138,574</b>	

### Southern Green Mountains Ecoregion

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	320	<b>853</b>	301	<b>796</b>
	Pasture	223		164	
	Open Areas with no vegetation	310		324	
	Woody Perennial	-		7	
Developed	Mining	42	<b>631</b>	38	<b>715</b>
	Participation Recreation	19		19	
	Spectator Recreation	-		-	
	Water Based Recreation	-		-	
	Multifamily Residential	-		-	
	High Density Residential	22		22	
	Medium Density Residential	58		58	
	Low Density Residential	447		528	
	Commercial	20		20	
	Industrial	-		2	
	Urban Open	21		25	
	Transportation	2		2	
	Waste Disposal	-		-	
Forest	Forest	18,813	<b>18,813</b>	18,783	<b>18,783</b>
Water/wet	Nonforested Wetland	113	203	113	206
	Saltwater Wetland	-		-	
	Water	90		93	
missing data (approximate)		0.799	-	0.799	-
<b>Totals</b>		<b>20,500</b>		<b>20,500</b>	

## Southern Green Mountains and Southern Vermont Piedmont Ecoregions



**Taconic Mountains Ecoregion: Taconic Highlands Land Type Association**

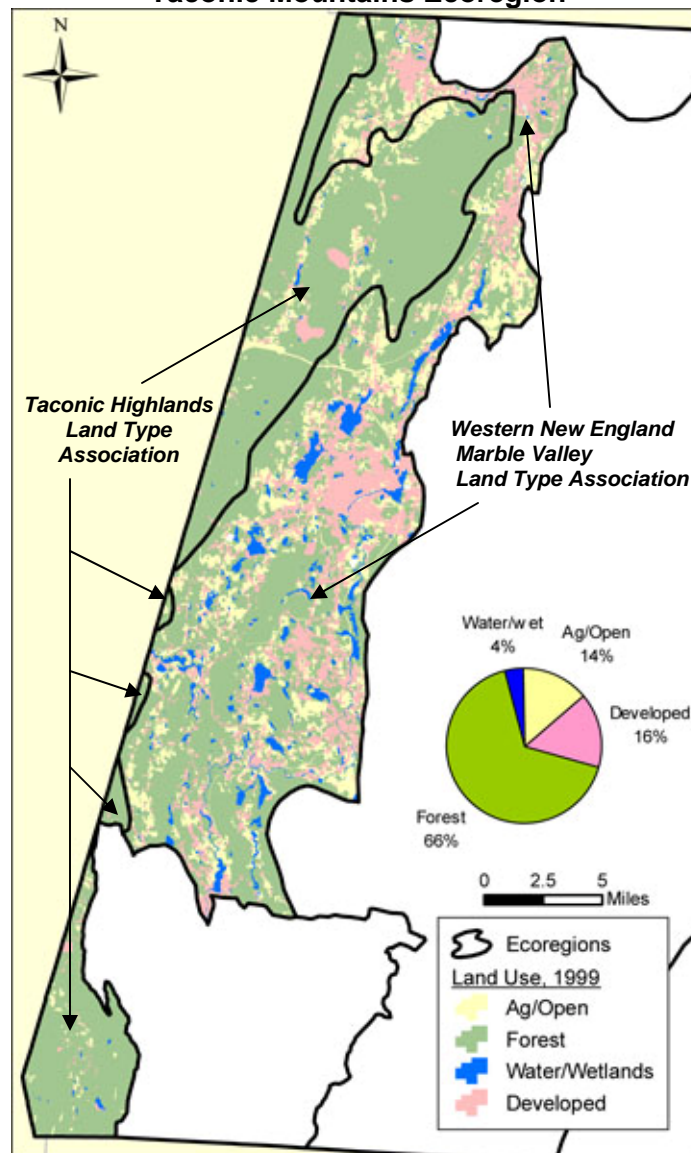
Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	3,209	<b>6,105</b>	2,991	<b>5,630</b>
	Pasture	1,951		1,520	
	Open Areas with no vegetation	875		1,059	
	Woody Perennial	69		60	
Developed	Mining	4	<b>2,285</b>	12	<b>2,781</b>
	Participation Recreation	1,044		1,104	
	Spectator Recreation	-		-	
	Water Based Recreation	3		3	
	Multifamily Residential	22		65	
	High Density Residential	20		20	
	Medium Density Residential	45		47	
	Low Density Residential	1,044		1,365	
	Commercial	45		47	
	Industrial	7		11	
	Urban Open	52		106	
	Transportation	0.01		0.01	
	Waste Disposal	-		-	
Forest	Forest	72,726	<b>72,726</b>	72,681	<b>72,681</b>
Water/wet	Nonforested Wetland	207	<b>394</b>	222	<b>417</b>
	Saltwater Wetland	-		-	
	Water	187		195	
missing data		9.098	-	9.098	-
<b>Totals</b>		<b>81,519</b>		<b>81,519</b>	



**Taconic Mountains Ecoregion: Western New England Marble Valley Land Type Association**

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	16,249	<b>31,261</b>	14,911	<b>27,782</b>
	Pasture	8,114		6,478	
	Open Areas with no vegetation	6,610		6,126	
	Woody Perennial	288		266	
Developed	Mining	1,079	<b>31,373</b>	911	<b>34,210</b>
	Participation Recreation	2,326		2,402	
	Spectator Recreation	94		66	
	Water Based Recreation	29		29	
	Multifamily Residential	338		544	
	High Density Residential	5,886		5,919	
	Medium Density Residential	5,399		5,654	
	Low Density Residential	9,410		11,561	
	Commercial	1,983		2,296	
	Industrial	1,203		1,285	
	Urban Open	2,508		2,513	
	Transportation	715		735	
	Waste Disposal	401		295	
Forest	Forest	83,243	<b>83,243</b>	83,781	<b>83,781</b>
Water/wet	Nonforested Wetland	4,614	<b>8,672</b>	4,719	<b>8,777</b>
	Saltwater Wetland	-		-	
	Water	4,058		4,058	
missing data (approximate)		0.028	-	0.028	-
<b>Totals</b>		<b>154,549</b>		<b>154,549</b>	

## Taconic Mountains Ecoregion



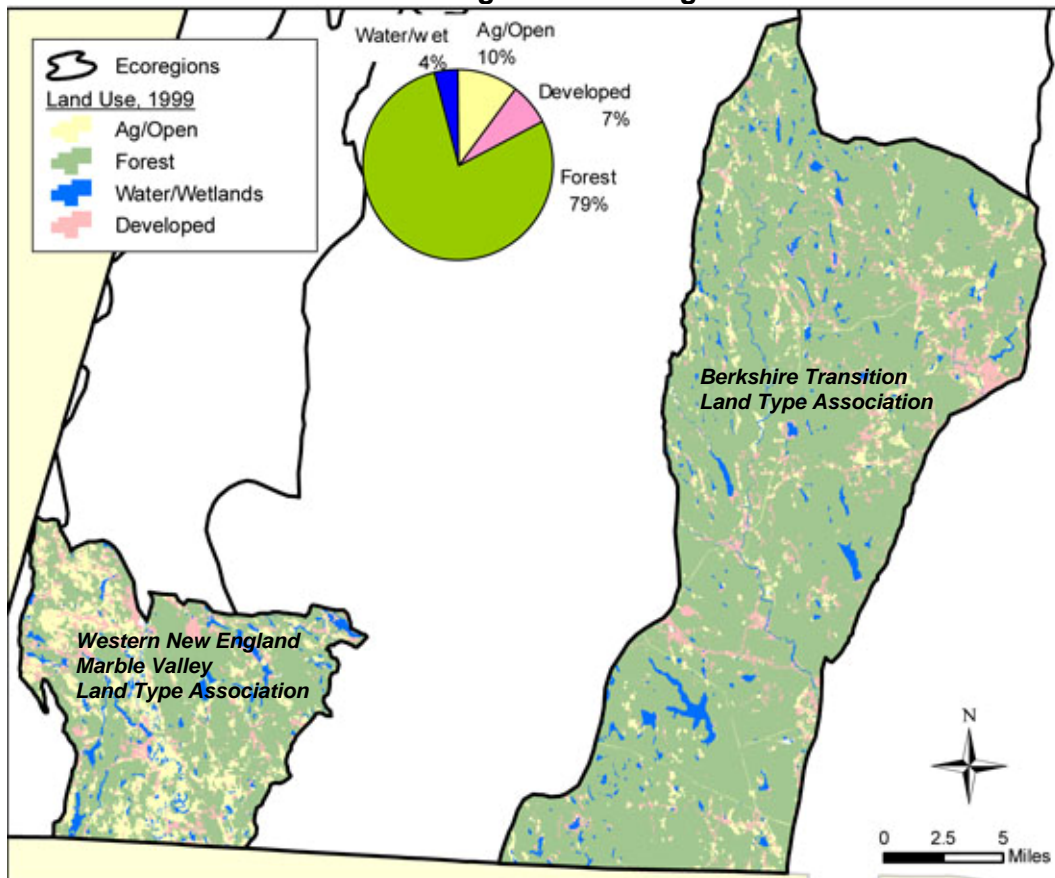
**Hudson Highlands Ecoregion: *Berkshire Transition Land Type Association***

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	6,456	<b>14,881</b>	5,947	<b>13,598</b>
	Pasture	4,735		3,733	
	Open Areas with no vegetation	2,781		3,110	
	Woody Perennial	909		808	
Developed	Mining	429	<b>11,790</b>	450	<b>14,465</b>
	Participation Recreation	795		848	
	Spectator Recreation	42		42	
	Water Based Recreation	25		24	
	Multifamily Residential	55		116	
	High Density Residential	581		581	
	Medium Density Residential	1,150		1,261	
	Low Density Residential	7,029		9,391	
	Commercial	270		287	
	Industrial	256		290	
	Urban Open	743		781	
	Transportation	266		263	
	Waste Disposal	149		129	
Forest	Forest	195,724	<b>195,724</b>	194,284	<b>194,284</b>
Water/wet	Nonforested Wetland	3,323	<b>7,220</b>	3,415	<b>7,268</b>
	Saltwater Wetland	-		-	
	Water	3,896		3,853	
missing data (approximate)		0.683	-	0.683	-
<b>Totals</b>		<b>229,616</b>		<b>229,616</b>	

**Hudson Highlands Ecoregion: Western New England Marble Valley Land Type Assoc.**

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	11,817	<b>18,102</b>	11,228	<b>17,389</b>
	Pasture	4,709		4,030	
	Open Areas with no vegetation	1,417		1,990	
	Woody Perennial	159		142	
Developed	Mining	209	<b>6,845</b>	100	<b>7,995</b>
	Participation Recreation	814		726	
	Spectator Recreation	56		56	
	Water Based Recreation	4		4	
	Multifamily Residential	12		12	
	High Density Residential	57		57	
	Medium Density Residential	776		781	
	Low Density Residential	4,171		5,417	
	Commercial	210		223	
	Industrial	76		78	
	Urban Open	348		405	
	Transportation	77		80	
	Waste Disposal	35		55	
Forest	Forest	46,120	<b>46,120</b>	45,637	<b>45,637</b>
Water/wet	Nonforested Wetland	2,943	<b>4,236</b>	2,974	<b>4,281</b>
	Saltwater Wetland	-		-	
	Water	1,292		1,308	
missing data (approximate)		0.593	-	0.593	-
<b>Total</b>		<b>75,304</b>		<b>75,304</b>	

## Hudson Highlands Ecoregion



### Berkshire Ecoregions: Total Land Use

Group	Land Use	1985 (acres)		1999 (acres)	
		all	groups	all	groups
Ag/Open	Cropland	60,338	<b>118,299</b>	56,113	<b>109,547</b>
	Pasture	35,293		28,795	
	Open Areas with no vegetation	19,753		21,608	
	Woody Perennial	2,915		3,032	
Developed	Mining	2,564	<b>76,443</b>	2,278	<b>89,556</b>
	Participation Recreation	6,804		7,140	
	Spectator Recreation	205		165	
	Water Based Recreation	110		108	
	Multifamily Residential	477		794	
	High Density Residential	7,351		7,427	
	Medium Density Residential	9,875		10,389	
	Low Density Residential	36,240		47,792	
	Commercial	3,203		3,661	
	Industrial	1,847		2,051	
	Urban Open	4,891		4,987	
	Transportation	2,090		2,147	
	Waste Disposal	785		619	
Forest	Forest	901,689	<b>901,689</b>	896,850	<b>896,850</b>
Water/wet	Nonforested Wetland	20,098	<b>37,566</b>	20,493	<b>38,043</b>
	Saltwater Wetland	-		-	
	Water	17,468		17,549	
missing data		14		14	
<b>Total</b>		<b>1,134,011</b>		<b>1,134,011</b>	

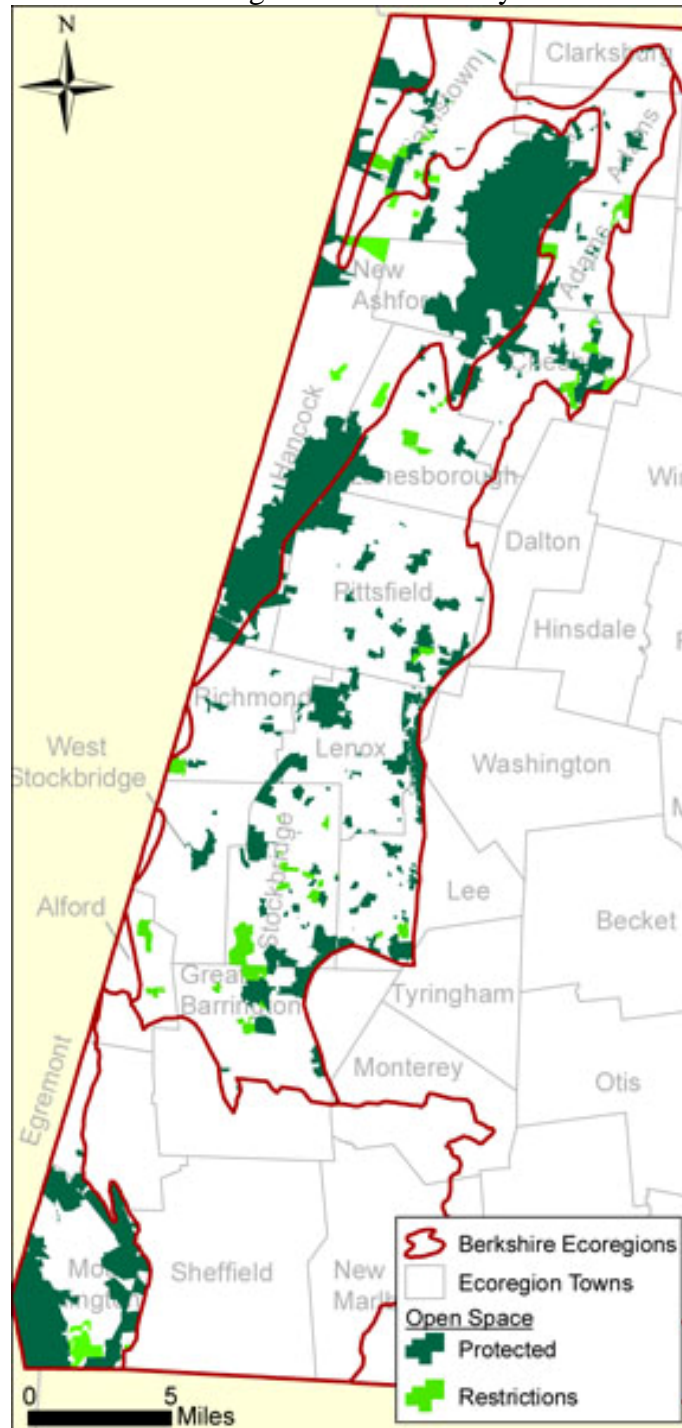
### Appendix III. Permanently Protected Open Space<sup>1</sup> (Berkshire Ecoregions)

#### Taconic Mountains Ecoregion

Taconic Highlands Association

and

Western New England Marble Valley Association



<sup>1</sup>as of November 2004

**Taconic Mountains Ecoregion**  
**Taconic Highlands Association**

LTA total area: 81,519 42.16%

Type	Acres	% of Ecoregion	% of Protected Land
<b>Permanent</b>	<b>32,646</b>	<b>40%</b>	<b>95%</b>
Federal State/DCR	355	0.4%	1%
DCR-State Parks	27,772	34%	81%
DCR-State Parks/DFW	735	1%	2%
DFW	1,383	1.7%	4%
Total:	29,890	37%	87%
Municipal	2,019	2%	6%
Non-profits	382	0%	1%
<b>Open Space Restrictions</b>	<b>1,719</b>	<b>2%</b>	<b>5%</b>
<u>Conservation Restrictions (CR)</u>			
DCR-State Parks	49	0.1%	0.1%
DCR-State Parks/DFW	9	0.01%	0.03%
DFW	634	0.8%	1.8%
Municipal	78	0.1%	0.2%
Non-Profits	267	0%	1%
Total:	1,037	1%	3%
<u>Agricultural Preservation Restriction (APR)</u>			
DFA	664	1%	2%
<u>CR/APR</u>			
DCR-State Parks/DFA	18	0.0%	0.1%
<b>Totals</b>	<b>34,365</b>	<b>42%</b>	<b>100%</b>

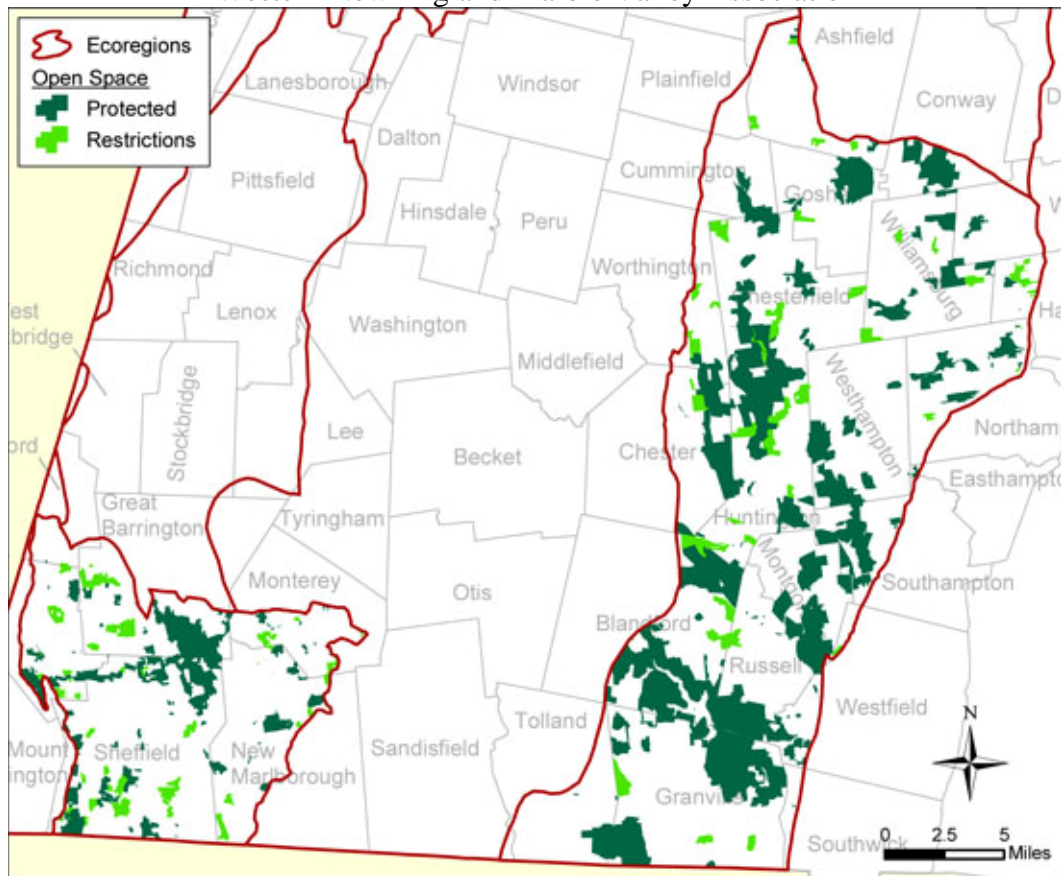
**Taconic Mountains Ecoregion**  
**Western New England Marble Valley Association**

LTA total area: 154,549 14.40%

Type	Acres	% of Ecoregion	% of Protected Land
<b>Permanent</b>	<b>18,058</b>	<b>12%</b>	<b>81%</b>
Federal State/DCR	112	0.1%	1%
DCR-State Parks	6,559	4%	29%
DFW	3,468	2%	16%
Total:	10,027	6%	45%
Municipal	3,575	2%	16%
Non-profits	4,344	3%	20%
<b>Open Space Restrictions</b>	<b>4,192</b>	<b>3%</b>	<b>19%</b>
<u>Conservation Restrictions (CR)</u>			
DCR-State Parks	228	0.1%	1.0%
DFW	272	0.2%	1%
Municipal	189	0.1%	0.8%
Non-Profits	1,395	1%	6%
Total:	2,084	1%	9%
<u>Agricultural Preservation Restriction (APR)</u>			
DFA	1,918	1%	9%
<u>CR/APR</u>			
DCR-State Parks/DFA	190	0.1%	0.9%
<b>Totals</b>	<b>22,250</b>	<b>14%</b>	<b>100%</b>



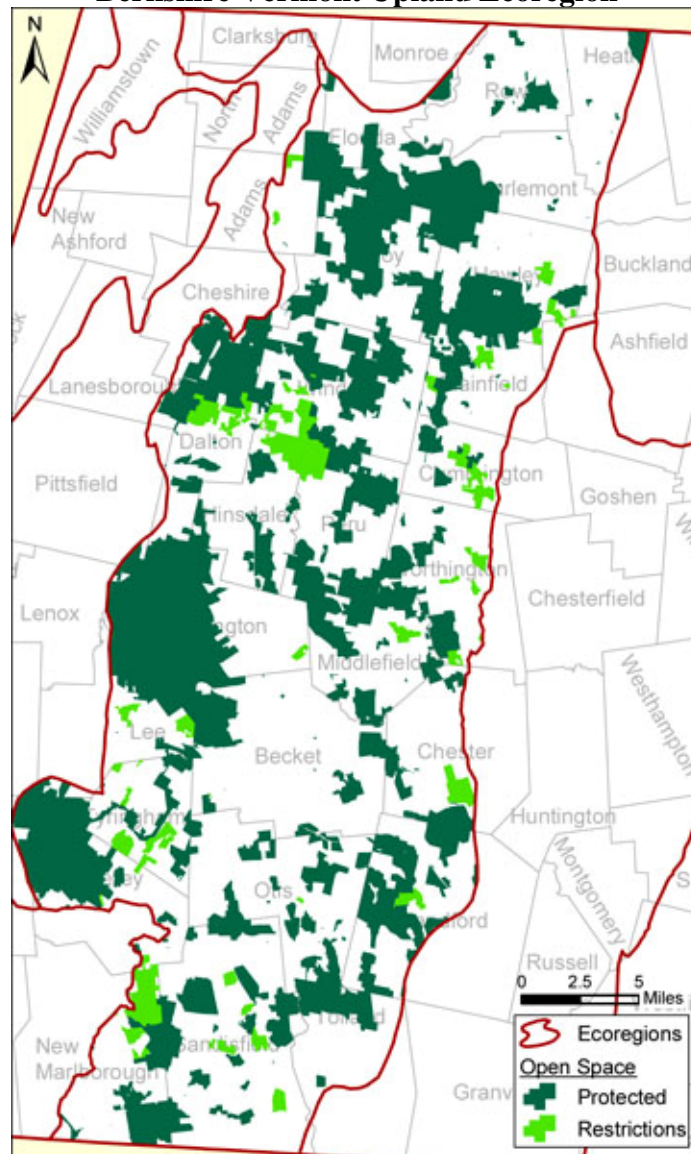
**Hudson Highlands Ecoregion**  
Berkshire Transition Association  
and  
Western New England Marble Valley Association



Hudson Highlands Ecoregion Berkshire Transition Association			
LTA total area:		229,616	23.10%
Type	Acres	% of Ecoregion	% of Protected Land
<b>Permanent</b>	<b>46,918</b>	<b>20%</b>	<b>88%</b>
Federal <u>State/DCR</u>	4,177	1.8%	8%
<i>DCR-State Parks</i>	9,201	4%	17%
<i>DFW</i>	5,962	3%	11%
Total:	15,163	7%	29%
Municipal	25,823	11%	49%
Non-profits	1,755	1%	3%
<b>Open Space Restrictions</b>	<b>6,115</b>	<b>3%</b>	<b>12%</b>
<u>Conservation Restrictions (CR)</u>			
<i>DCR-State Parks</i>	351	0.2%	0.7%
<i>DFW</i>	2,766	1.2%	5%
<i>Municipal</i>	634	0.3%	1.2%
<i>Non-Profits</i>	1,341	1%	3%
Total:	5,092	2%	10%
<u>Agricultural Preservation Restriction (APR)</u>			
DFA	1,023	0%	2%
<u>CR/APR</u>			
DCR/DFA	-	0.0%	0.0%
<b>Totals</b>	<b>53,033</b>	<b>23%</b>	<b>100%</b>

Hudson Highlands Ecoregion Western new England Marble Valley Association			
LTA total area:		75,304	17.09%
Type	Acres	% of Ecoregion	% of Protected Land
<b>Permanent</b>	<b>9,282</b>	<b>12%</b>	<b>72%</b>
Federal <u>State/DCR</u>	1,381	1.8%	11%
<i>DCR-State Parks</i>	2,434	3%	19%
<i>DCR-State Parks/DFW</i>	437	1%	3%
<i>DFW</i>	1,274	2%	10%
Total:	4,145	6%	32%
Municipal	443	1%	3%
Non-profits	3,313	4%	26%
<b>Open Space Restrictions</b>	<b>3,587</b>	<b>5%</b>	<b>28%</b>
<u>Conservation Restrictions (CR)</u>			
<i>DCR-State Parks/DFW</i>	41	0.1%	0.3%
<i>Non-Profits</i>	1,248	1.7%	9.7%
<i>Federal</i>	28	0%	0%
Total:	1,317	2%	10%
<u>Agricultural Preservation Restriction (APR)</u>			
DFA	2,270	3%	18%
<u>CR/APR</u>			
DCR/DFA	-	0.0%	0.0%
<b>Totals</b>	<b>12,869</b>	<b>17%</b>	<b>100%</b>

## Berkshire Vermont Upland Ecoregion

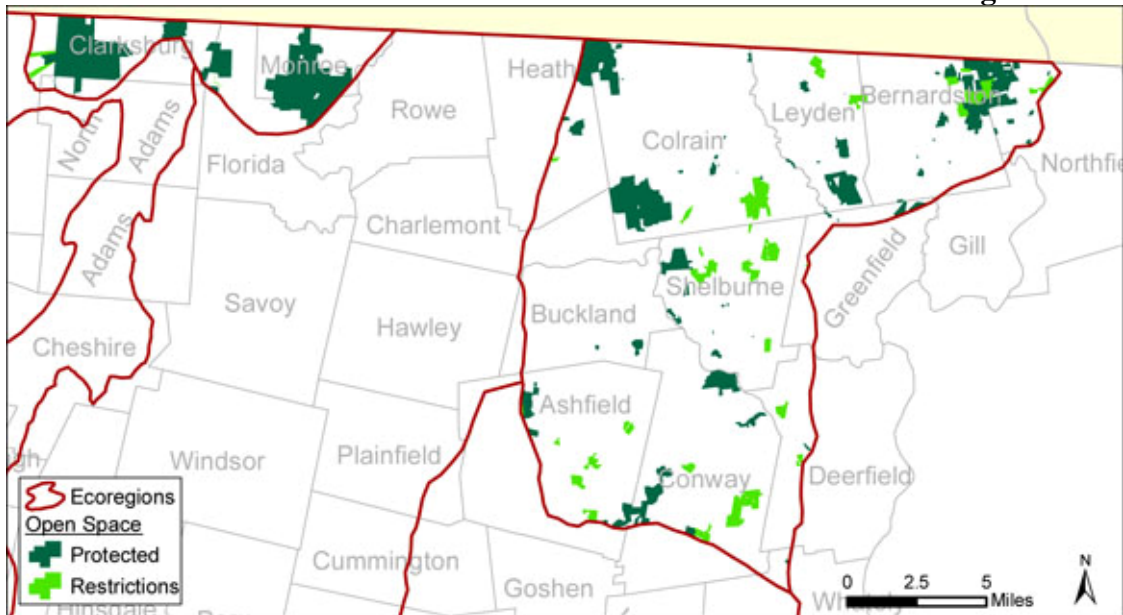


### Berkshire Vermont Upland Ecoregion

*LTA total area:* 433,948 32.81%

Type	Acres	% of Ecoregion	% of Protected Land
<b>Permanent</b>	<b>131,369</b>	<b>30%</b>	<b>92%</b>
Federal	2,420	0.6%	2%
<u>State/DCR</u>			
<i>DCR-State Parks</i>	84,215	19%	59%
<i>DFW</i>	22,537	5%	16%
Total:	106,752	25%	75%
Municipal	14,250	3%	10%
Non-profits	7,947	2%	6%
<b>Open Space Restrictions</b>	<b>10,997</b>	<b>3%</b>	<b>8%</b>
<u>Conservation Restrictions</u>			
<u>(CR)</u>			
<i>DCR-State Parks</i>	164	0.0%	0.1%
<i>DFW</i>	5,592	1.3%	3.9%
<i>Municipal</i>	453		
<i>Non-Profits</i>	768	0%	1%
Total:	6,977	2%	5%
<u>Agricultural Preservation</u>			
<u>Restriction (APR)</u>			
DFA	3,799	1%	3%
<u>CR/APR</u>			
DFA/Non-Profit	221	0.1%	0.2%
<b>Totals</b>	<b>142,366</b>	<b>33%</b>	<b>100%</b>

## Southern Vermont Piedmont & Southern Green Mountains Ecoregions



### Southern Vermont Piedmont Ecoregion

*LTA total area:* 138,574 32.01%

Type	Acres	% of Ecoregion	% Of Protected Land
<b>Permanent</b>	<b>8,759</b>	<b>6%</b>	<b>71%</b>
Federal	-	0.0%	0%
<u>State/DCR</u>			
<i>DCR-State Parks</i>	3,707	3%	30%
<i>DFW</i>	3,139	2%	25%
Total:	6,846	5%	55%
Municipal	1,020	1%	8%
Non-profits	893	1%	7%
<b>Open Space Restrictions</b>	<b>3,590</b>	<b>3%</b>	<b>29%</b>
<u>Conservation Restrictions (CR)</u>			
<i>DCR-State Parks</i>	121	0.1%	1.0%
<i>DFW</i>	531	0.4%	4.3%
<i>Municipal</i>	154		
<i>Non-profits</i>	284	0%	2%
Total:	1,090	1%	9%
<u>Agricultural Preservation Restriction (APR)</u>			
DFA	2,500	2%	20%
<u>CR/APR</u>			
DCR/DFA	-	0.0%	0.0%
<b>Totals</b>	<b>12,349</b>	<b>9%</b>	<b>100%</b>

### Southern Green Mountains Ecoregion

*LTA total area:* 20,500 36.24%

Type	Acres	% of Ecoregion	% of Protected Land
<b>Permanent</b>	<b>7,264</b>	<b>35%</b>	<b>98%</b>
Federal	-	0.0%	0%
<u>State/DCR</u>			
DCR-State Parks	7,172	35%	97%
Municipal	-	0%	0%
Non-profits	92	0%	1%
<b>Open Space Restrictions</b>	<b>165</b>	<b>1%</b>	<b>2%</b>
<u>Conservation Restrictions (CR)</u>			
Municipal	21	0.1%	0.3%
Non-profits	144	1%	2%
Total:	165	1%	2%
<u>Agricultural Preservation Restriction (APR)</u>			
DFA	-	0%	0%
<u>CR/APR</u>			
DCR/DFA	-	0.0%	0.0%
<b>Totals</b>	<b>7,429</b>	<b>36%</b>	<b>100%</b>

**Appendix IV.** Natural Heritage Endangered Species Program Tables / Figure.

**Table A.** BioMap Core Habitat in the Berkshire Ecoregions.

USDA FS Ecoregions and LTA's	Number of BioMap Core Habitats	Core Acreage	Ecoregion Acreage	% of Ecoregion/LTA covered by BM Core Habitat
Berkshire-Vermont Upland Ecoregion	110	67831.179	433946.640	15.6%
Hudson Highlands	97	65334.497	304918.496	21.4%
<i>Berkshire Transition Association</i>	61	36211.860	229614.966	15.8%
<i>Western New England Marble Valley Association</i>	36	29122.637	75303.530	38.7%
Southern Green Mountains Ecoregion	19	704.845	20500.404	3.4%
Southern Vermont Piedmont Ecoregion	62	18419.237	138573.462	13.3%
Taconic Mountains Ecoregion	75	96018.758	236067.011	40.7%
<i>Taconic Highlands Association</i>	12	55207.598	81518.281	67.7%
<i>Western New England Marble Valley Association</i>	63	40811.160	154548.730	26.4%
<b>Totals</b>	<b>363</b>	<b>248308.516</b>	<b>1134006.013</b>	<b>21.9%</b>

As of 02/05

Note: BM Core Habitat = BioMap Core Habitat



**Table B.** BioMap Supporting Natural Landscape in the Berkshire Ecoregions.

USDA FS Ecoregions and LTA's	Number of SNL Polygons	SNL Acreage	Ecoregion Acreage	% of Ecoregion/LTA covered by BM SNL
Berkshire-Vermont Upland Ecoregion	207	164382.558	433946.640	37.9%
Hudson Highlands	341	122619.495	304918.496	40.2%
<i>Berkshire Transition Association</i>	159	112941.075	229614.966	49.2%
<i>Western New England Marble Valley Association</i>	182	9678.420	75303.530	12.9%
Southern Green Mountains Ecoregion	14	11448.727	20500.404	55.8%
Southern Vermont Piedmont Ecoregion	116	45135.133	138573.462	32.6%
Taconic Mountains Ecoregion	297	22235.333	236067.011	9.4%
<i>Taconic Highlands Association</i>	77	1688.038	81518.281	2.1%
<i>Western New England Marble Valley Association</i>	220	20547.295	154548.730	13.3%
<b>Totals</b>	<b>975</b>	<b>365821.246</b>	<b>1134006.013</b>	<b>32.3%</b>

As of 02/05

Note: BM SNL = BioMap Supporting Natural Landscape

**Table C.** Living Water Core Habitat in the Berkshire Ecoregions.

USDA FS Ecoregions and LTA's	Number of LW Core Habitats	Core Habitat Acreage	Ecoregion Acreage	% of Ecoregion/LTA covered by LW Core Habitat
Berkshire-Vermont Upland Ecoregion	48	2221.748	433946.640	0.5%
Hudson Highlands	50	1561.796	304918.496	0.5%
<i>Berkshire Transition Association</i>	30	896.381	229614.966	0.4%
<i>Western New England Marble Valley Association</i>	20	665.415	75303.530	0.9%
Southern Green Mountains Ecoregion	3	56.135	20500.404	0.3%
Southern Vermont Piedmont Ecoregion	25	691.838	138573.462	0.5%
Taconic Mountains Ecoregion	47	3058.081	236067.011	1.3%
<i>Taconic Highlands Association</i>	8	206.137	81518.281	0.3%
<i>Western New England Marble Valley Association</i>	39	2851.944	154548.730	1.8%
<b>Totals</b>	<b>173</b>	<b>7589.598</b>	<b>1134006.013</b>	<b>0.7%</b>

As of 02/05

Note: LW Core Habitat = Living Waters Core Habitat

**Table D.** Living Waters Critical Supporting Watersheds in the Berkshire Ecoregions.

USFS Ecoregions and LTA's	Number of CSW Polygons	CSW Acreage	Ecoregion Acreage	% of Ecoregion/LTA covered by LW CSW
Berkshire-Vermont Upland Ecoregion	58	197027.827	433946.640	45.4%
Hudson Highlands	58	125610.930	304918.496	41.2%
<i>Berkshire Transition Association</i>	37	98806.620	229614.966	43.0%
<i>Western New England Marble Valley Association</i>	21	26804.310	75303.530	35.6%
Southern Green Mountains Ecoregion	4	7574.034	20500.404	36.9%
Southern Vermont Piedmont Ecoregion	29	94825.317	138573.462	68.4%
Taconic Mountains Ecoregion	63	129030.625	236067.011	54.7%
<i>Taconic Highlands Association</i>	23	35299.061	81518.281	43.3%
<i>Western New England Marble Valley Association</i>	40	93731.564	154548.730	60.6%
<b>Totals</b>	<b>212</b>	<b>554068.733</b>	<b>1134006.013</b>	<b>48.9%</b>

As of 02/05

Note: LW CSW = Living Waters Critical Supporting Watersheds

**Table E.** Priority Habitats in the Berkshire Ecoregions

USDA FS Ecoregions and LTA's	Number of NHESP Priority Habitats	NHESP Priority Habitat Acreages	Ecoregion Acreage	% of Ecoregion/LTA covered by Priority Habitats
Berkshire-Vermont Upland Ecoregion	118	29671.132	433946.640	6.8%
Hudson Highlands	108	34609.390	304918.496	11.4%
<i>Berkshire Transition Association</i>	54	17364.528	229614.966	7.6%
<i>Western New England Marble Valley Association</i>	54	17244.862	75303.530	22.9%
Southern Green Mountains Ecoregion	12	1048.550	20500.404	5.1%
Southern Vermont Piedmont Ecoregion	52	10092.247	138573.462	7.3%
Taconic Mountains Ecoregion	140	43628.811	236067.011	18.5%
<i>Taconic Highlands Association</i>	39	18129.206	81518.281	22.2%
<i>Western New England Marble Valley Association</i>	101	25499.605	154548.730	16.5%
<b>Totals</b>	<b>430</b>	<b>119050.130</b>	<b>1134006.013</b>	<b>10.5%</b>

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**Table F.** Estimated Habitats of Rare Wetlands Wildlife in the Berkshire Ecoregions.

USDA FS Ecoregions and LTA's	Number of Estimated Habitats of Rare Wetland Wildlife	Estimated Habitat Acreages	Ecoregion Acreage	% of Ecoregion/LTA covered by WetHabs
Berkshire-Vermont Upland Ecoregion	68	18639.071	433946.640	4.3%
Hudson Highlands	78	20028.710	304918.496	6.6%
<i>Berkshire Transition Association</i>	44	10418.716	229614.966	4.5%
<i>Western New England Marble Valley Association</i>	34	9609.994	75303.530	12.8%
Southern Green Mountains Ecoregion	5	532.388	20500.404	2.6%
Southern Vermont Piedmont Ecoregion	25	7185.447	138573.462	5.2%
Taconic Mountains Ecoregion	81	20104.066	236067.011	8.5%
<i>Taconic Highlands Association</i>	19	4338.259	81518.281	5.3%
<i>Western New England Marble Valley Association</i>	62	15765.807	154548.730	10.2%
<b>Totals</b>	<b>257</b>	<b>66489.682</b>	<b>1134006.013</b>	<b>5.9%</b>

As of 02/05

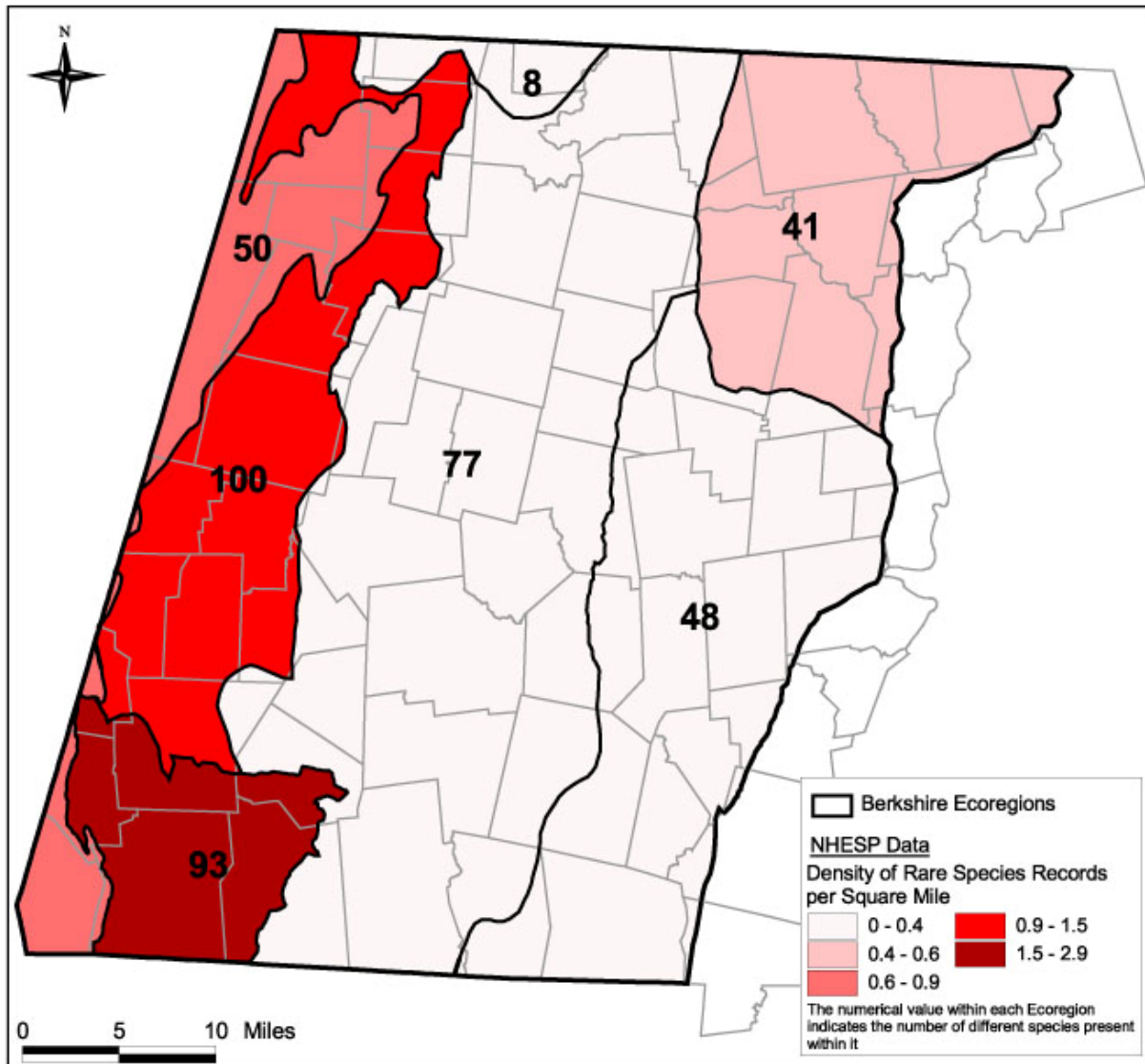
**Table G.** Certified Vernal Pools, Potential Vernal Pools, and Rare Species Sub-population Density in the Berkshire Ecoregions.

USDA FS Ecoregions and LTA's	# CVPs	# PVP's	Rare Species Sub-population Density (per sq mile)	# of EOs (populations)	# of Distinct Rare Species	# of Rare Species Sub-populations	Area (Sq Miles)
Berkshire-Vermont Upland Ecoregion	28	786	0.4	79	77	242	678
Hudson Highlands	61	758	0.8	147	141	397	477
<i>Berkshire Transition Association</i>	59	477	0.4	81	48	133	359
<i>Western New England Marble Valley Association</i>	2	281	2.2	66	93	264	118
Southern Green Mountains Ecoregion	0	31	0.3	8	8	10	32
Southern Vermont Piedmont Ecoregion	3	31	0.6	65	41	122	217
Taconic Mountains Ecoregion	60	504	1.3	133	150	487	368
<i>Taconic Highlands Association</i>	4	130	0.9	47	50	119	127
<i>Western New England Marble Valley Association</i>	56	374	1.5	86	100	368	241
<b>Totals</b>	<b>152</b>	<b>2110</b>	<b>0.7</b>	<b>432</b>	<b>417</b>	<b>1258</b>	<b>1772</b>

As of 02/05

Note: CVPs = Certified Vernal Pools  
PVPs = Potential Vernal Pools  
EOs = Element Occurrences

## H. Rare Species Population Density Records in the Berkshire Ecoregions.



**Appendix V.** Partial list of conservation and other organizations for the  
Berkshire Ecoregions.

<b>Organization</b>	<b>Work Area</b>
Adams	Town
Agricultural Land Trust	East Coast
Alford	Town
American Farmland Trust	National
Appalachian Mountain Club	Northeast
Appalachian Trail Conference	East Coast
Ashfield	Town
Bay State Forestry	Statewide
Bay State Horseback Trail Riders	Statewide
Becket	Town
Becket Land Trust	Becket
Berkshire County Land Trust and Conservation Fund	Berkshire County
Berkshire Cycling Association	Western Mass
Berkshire Environmental Action Team (BEAT)	Western Mass
Berkshire Natural Research Council	Western Mass
Bernardston	Town
Blandford	Town
Boy Scouts of America	National
Buckland	Town
Bureau of Land Management	National
Charlemont	Town
Cheshire	Town
Chester	Town
Chesterfield	Town
Clarksburg	Town
Colrain	Town
Community Land Trust in Southern Berkshires	Western Mass
Connecticut River Watershed Council	Connecticut River watershed
Conservation Law Foundation	Northeast
Conway	Town
Cummington	Town
Dalton	Town
Deerfield	Town
Deerfield Land Trust	Deerfield
Ducks Unlimited, Inc., Great Lakes/Atlantic Regional Office	National
Eastern Native Tree Society	Eastern US
Easthampton	Town
Egremont	Town
Egremont Environmental Action and Land Trust	Egremont



Egremont Land Trust	Egremont
Environmental League of Massachusetts (ELM)	Statewide
Environmental Protection Agency	National
Federal Aviation Administration	National
Five Colleges, Inc	Western Mass
Florida	Town
Forest & Wood Products Institute	Statewide
Forest Stewards Guild	Statewide
USDA / Forest Service - Forest Stewardship Program	National
Forest Watch	Northeast
Franklin Land Trust	Western Mass
Franklin Regional Council of Governments	Franklin County
Friends of Mt. Everett	Great Barrington
Gill	Town
Goshen	Town
Granville	Town
Great Barrington	Town
Great Barrington Land Conservancy	Great Barrington
Greenfield	Town
Hancock	Town
Hancock Rural Land Foundation	Hancock
Harvard University	Statewide
Hatfield	Town
Hawley	Town
Heath	Town
Hinsdale	Town
Historic Deerfield, Inc.	Deerfield
Hull Forest Products, Inc.	Northeast
Humane Society US Wildlife Land Trust	National
Huntington	Town
International Wildlife Coalition	International
Kestrel Trust	Connecticut Valley
Land Trust Alliance	National
Lanesborough	Town
Laurel Hill Association	Stockbridge
League of Conservation Voters Education Fund	New England
Lee	Town
Lee Land Trust	Lee
Lenox	Town
Leyden	Town
Massachusetts Horticultural Society	Statewide
Manomet Center for Conservation Sciences	Eastern US
Massachusetts Association of Conservation Commissions	Statewide
Massachusetts Association of Professional Foresters	Statewide

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Massachusetts Audubon Society	Statewide
Massachusetts Builders Land Trust	Statewide
Massachusetts Chapter / Society of American Foresters	Statewide
Massachusetts Congress of Lake & Pond Associations	Statewide
Massachusetts Department of Conservation & Recreation	Statewide
Massachusetts Department of Environmental Management	Statewide
Massachusetts Department of Environmental Protection	Statewide
Massachusetts Department of Food and Agriculture	Statewide
Massachusetts Division of Capital Asset Management	Statewide
Massachusetts Division of Fisheries & Wildlife	Statewide
Massachusetts Environmental Trust	Statewide
Massachusetts Executive Office of Environmental Affairs	Statewide
Massachusetts Forest Products Association	Statewide
Massachusetts Forestry Association	Statewide
Massachusetts House of Representatives	Statewide
Massachusetts Land Conservation Trust (TTOR)	Statewide
Massachusetts Land Trust Coalition	Statewide
Massachusetts State Senate	Statewide
Massachusetts Sportsmen's Council	Statewide
Massachusetts Trapper's Association	Statewide
Massachusetts Wildlife Foundation	Statewide
Massachusetts Wood Producers Association	Statewide
Massachusetts Woodlands Cooperative	Western Mass
MassPIRG	Statewide
Middlefield	Town
Monroe	Town
Monterey	Town
Monterey Preservation Land Trust	Monterey
Montgomery	Town
Mount Grace Land Conservation Trust	North Central and Western Mass
Mount Washington	Town
National Park Service - Massachusetts	Statewide
National Trust for Historic Preservation	National
National Wildlife Federation	National
New Ashford	Town
New England Society of American Foresters	Northeast
New England FLOW	New England
New England Forestry Foundation	Northeast
New England Mountain Bike Association	New England
New England Society of American Forester	New England
New England Wild Flower Society	Northeast
New Marlborough	Town
North Adams	Town
Northampton	Town

Northfield	Town
Otis	Town
Pascommuck Conservation Trust, Inc.	Easthampton
Peru	Town
Pioneer Valley Planning Commission	42 Western Mass communities
Pittsfield	Town
Plainfield	Town
Regional Environmental Council	New England
Restore: The North Woods	Northeast
Richmond	Town
Richmond Land Trust	Richmond
Riverways Program	Statewide
Rowe	Town
Russell	Town
Sandisfield	Town
Savory	Town
Sheffield	Town
Sheffield Land Trust	Sheffield
Shelburne	Town
Sierra Club (Massachusetts Chapter)	Statewide
Snowmobile Association of MA	Statewide
Society of American Foresters	National
Southampton	Town
Southern New England Forest Consortium, Inc.	Southern New England
Southwick	Town
Sportsmen's Land Trust Ltd	East Coast
Stockbridge	Town
Stockbridge Land Trust	Stockbridge
The Cowls Companies	Western Mass
The National Wild Turkey Federation	National
The Nature Conservancy	National
The Ruffed Grouse Society, Northeast Region	Northeast
The Trust for Public Land	National
The Trustees of Reservations	Statewide
The Wilderness Society	National
Tolland	Town
Trout Unlimited, Massachusetts Council	Statewide
Tyringham	Town
Tyringham Land Trust	Tyringham
U.S. Fish & Wildlife Service, NE Office	Northeast
U.S. Geological Survey	National
UMass Department of Natural Resources Conservation	Statewide
UMass Extension - University of MA	Statewide
UMass Foundation	Statewide

US Army Corp of Engineers - New England Division	New England
US Air Force - Westover Air Reserve Base	National
US Air Force - Air Force for Environmental Excellence	National
USDA / Forest Service	National
USDA / Forest Service - Forest Legacy Program	National
USDA / Forest Service - NA Experiment Station - Amherst	National
USF&W - Conte National Wildlife Refuge	National
Valley Community Land Trust	Greenfield
Valley Land Fund	Western Mass
Washington	Town
West Stockbridge	Town
West Stockbridge Mountain Association	West Stockbridge
Westfield	Town
Westhampton	Town
Whately	Town
Williamsburg	Town
Williamstown	Town
Williamstown Rural Lands Foundation	Williamstown
Windsor	Town
Windsor Rural Preservation Land Trust	Windsor
Winding River Land Conservancy	Westfield
Wood Producer	New England
Wood Products Manufacturing Association	Eastern US
Worthington	Town
Yankee Division / Society of American Foresters	Southern New England

Source : EOEa

**Appendix VI.** Listed species and natural communities known to occur in the Berkshire Ecoregions.

A. Listed Species:

<b>Taxonomic Group</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Grank</b>	<b>Srank</b>	<b>DFW Rank</b>	<b>Federal Rank</b>
Amphibian	Ambystoma jeffersonianum	Jefferson Salamander	G5	S3	SC	
Amphibian	Ambystoma maculatum	Spotted Salamander	G5	S4	- WL	
Amphibian	Ambystoma opacum	Marbled Salamander	G5	S2	T	
Amphibian	Gyrinophilus porphyriticus	Spring Salamander	G5	S3	SC	
Amphibian	Hemidactylium scutatum	Four-toed Salamander	G5	S3	SC	
Amphibian	Scaphiopus holbrookii	Eastern Spadefoot	G5	S2	T	
Beetle	Cicindela duodecimguttata	Twelve-spotted Tiger Beetle	G5	S3	SC	
Beetle	Desmocerus palliatus	Elderberry Long-horned Beetle	G?	S2S3	SC	
Bird	Podilymbus podiceps	Pied-billed Grebe	G5	S1	E	
Bird	Ardea herodias	Great Blue Heron	G5	S2	- WL	
Bird	Botaurus lentiginosus	American Bittern	G4	S2	E	
Bird	Ixobrychus exilis	Least Bittern	G5	S1	E	
Bird	Accipiter cooperii	Cooper's Hawk	G5	S3	- WL	
Bird	Accipiter striatus	Sharp-shinned Hawk	G5	S3	SC	(PS)
Bird	Circus cyaneus	Northern Harrier	G5	S1	T	
Bird	Haliaeetus leucocephalus	Bald Eagle	G4	S1	E	(PS:LT,PDL)
Bird	Falco peregrinus	Peregrine Falcon	G4	S1	E	(PS:LE)
Bird	Gallinula chloropus	Common Moorhen	G5	S1	SC	(PS)
Bird	Rallus elegans	King Rail	G4G5	S1	T	
Bird	Bartramia longicauda	Upland Sandpiper	G5	S1	E	
Bird	Tyto alba	Barn Owl	G5	S2	SC	
Bird	Cistothorus platensis	Sedge Wren	G5	S1	E	
Bird	Ammodramus henslowii	Henslow's Sparrow	G4	S1	E	
Bird	Ammodramus savannarum	Grasshopper Sparrow	G5	S2	T	(PS)
Bird	Dendroica striata	Blackpoll Warbler	G5	S1	SC	
Bird	Oporornis philadelphia	Mourning Warbler	G5	S1	SC	
Bird	Poocetes gramineus	Vesper Sparrow	G5	S2	T	
Crustacean	Eubbranchipus intricatus	Intricate Fairy Shrimp	G5	S1	SC	
Crustacean	Eulimnadia agassizii	Agassiz's Clam Shrimp	G3G4	S1	E	
Crustacean	Limnadia lenticularis	American Clam Shrimp	G3G4	S1	SC	
Crustacean	Cambarus bartonii	Appalachian Brook Crayfish	G5	S2	SC	
Crustacean	Gammarus pseudolimnaeus	Northern Spring Amphipod	G5	S2	SC	
Crustacean	Stygobromus borealis	Taconic Cave Amphipod	G3G4	S1	E	
Crustacean	Stygobromus tenuis tenuis	Piedmont Groundwater Amphipod	G4G5T2T3Q	S1	SC	

Fish	Couesius plumbeus	Lake Chub	G5	S1	E	
Fish	Notropis bifrenatus	Bridle Shiner	G5	S?	SC	
Fish	Phoxinus eos	Northern Redbelly Dace	G5	S1	E	
Fish	Catostomus catostomus	Longnose Sucker	G5	S3	SC	
Fish	Percopsis omiscomaycus	Trout-perch	G5	SH	-	
Fish	Lota lota	Burbot	G5	S1	SC	
Lepidopteran	Erora laeta	Early Hairstreak	G3G4	S1S2	T	
Lepidopteran	Euphyes dion	Dion Skipper	G4	S1S2	-	
Lepidopteran	Pieris oleracea	Eastern Veined White	G4G5	S1S2	T	
Lepidopteran	Eacles imperialis	Imperial Moth	G5	S1	T	
Lepidopteran	Sphinx luscitiosa	Clemens' Hawkmoth	G4	SU	- WL	
Lepidopteran	Apharetra dentata	Blueberry Sallow	G4	S2S3	- WL	
Lepidopteran	Catocala herodias gerhardi	Gerhard's Underwing Moth	G3T3	S3	SC	
Lepidopteran	Grammia williamsii	Williams' Tigermoth	G4	S1S2	-	
Lepidopteran	Papaipema sp 2 near pterisii	Ostrich Fern Borer Moth	G3G4	S1S3	SC	
Lepidopteran	Rhodoecia aurantiago	Orange Sallow Moth	G4	S2S3	T	
Mammal	Sorex dispar	Long-tailed Shrew	G4	S3	SC	
Mammal	Sorex hoyi	Pygmy Shrew	G5	S1	-	
Mammal	Sorex palustris	Water Shrew	G5	S3	SC	
Mammal	Myotis leibii	Eastern Small-footed Bat	G3	S1	SC	
Mammal	Myotis sodalis	Indiana Myotis	G2	SH	E	LE
Mussel	Alasmidonta heterodon	Dwarf Wedgemussel	G1G2	S1	E	LE
Mussel	Alasmidonta undulata	Triangle Floater	G4	S3	SC	
Mussel	Alasmidonta varicosa	Brook Floater (swollen Wedgemussel)	G3	S1	E	
Mussel	Strophitus undulatus	Creeper	G5	S3	SC	
Odonate	Aeshna mutata	Spatterdock Darner	G3G4	S1	SC	
Odonate	Boyeria grafiana	Ocellated Darner	G5	S1	SC	
Odonate	Enallagma carunculatum	Tule Bluet	G5	SU	SC	
Odonate	Enallagma laterale	New England Bluet	G3	S2S3	SC	
Odonate	Gomphus borealis	Beaverpond Clubtail	G4	S2	SC	
Odonate	Gomphus descriptus	Harpoon Clubtail	G4	S1	E	
Odonate	Gomphus quadricolor	A Clubtail Dragonfly	G3G4	SX	T	
Odonate	Gomphus ventricosus	Skillet Clubtail	G3	S2	SC	
Odonate	Ophiogomphus carolus	Riffle Snaketail	G5	S1	T	
Odonate	Somatochlora cingulata	Lake Emerald	G5	S1	-	
Odonate	Somatochlora elongata	Ski-tailed Emerald	G5	S2	SC	
Odonate	Somatochlora forcipata		G5	S?	SC	
Reptile	Clemmys guttata	Spotted Turtle	G5	S3	SC	

Reptile	Clemmys insculpta	Wood Turtle	G4	S3	SC	
Reptile	Clemmys muhlenbergii	Bog Turtle	G3	S1	E	(LT,T(S/A))
Reptile	Terrapene carolina	Eastern Box Turtle	G5	S3	SC	
Reptile	Elaphe obsoleta	Rat Snake	G5	S1	E	
Reptile	Crotalus horridus	Timber Rattlesnake	G4	S1	E	
Snail	Ferrissia walkeri	Walker's Limpet	G4G5	S3	SC	
Snail	Pomatiopsis lapidaria	Slender Walker	G5	S1	E	
Snail	Pyrgulopsis lustrica	Pilsbry's Spire Snail	G5	S1	E	
Snail	Valvata sincera	Boreal Turret Snail	G5	S1	E	
Vascular Plant	Acer nigrum	Black Maple	G5	S3	SC	
Vascular Plant	Angelica venenosa	Hairy Angelica	G5	SX	- H	
Vascular Plant	Conioselinum chinense	Hemlock Parsley	G5	S3	SC	
Vascular Plant	Sanicula canadensis	Canadian Sanicle	G5	S2	T	
Vascular Plant	Sanicula odorata	Long-styled Sanicle	G5	S2	T	
Vascular Plant	Ilex montana	Mountain Winterberry	G5	S1	E	
Vascular Plant	Panax quinquefolius	Ginseng	G3G4	S3	SC	
Vascular Plant	Petasites frigidus var palmatus	Sweet Coltsfoot	G5T5	S1	E	
Vascular Plant	Solidago hispida	Hispid Goldenrod	G5	SH	- H	
Vascular Plant	Solidago macrophylla	Large-leaved Goldenrod	G5	S2	T	
Vascular Plant	Solidago rigida	Stiff Goldenrod	G5	SX	- H	
Vascular Plant	Solidago simplex ssp randii var randii	Rand's Goldenrod	G5T4	S1	E	
Vascular Plant	Symphyotrichum prenanthoides	Crooked-stem Aster	G4G5	S2	T	
Vascular Plant	Symphyotrichum tradescantii	Tradescant's Aster	G4Q	S2	T	
Vascular Plant	Alnus viridis ssp crispa	Mountain Alder	G5T5	S2	T	
Vascular Plant	Betula pumila	Swamp Birch	G5	S1	E	
Vascular Plant	Cynoglossum boreale	Northern Wild Comfrey	G5T4	SX	- H	
Vascular Plant	Arabidopsis lyrata	Lyre-leaved Rock-cress	G5	S1	E	
Vascular Plant	Arabis laevigata	Smooth Rock-cress	G5	S2	T	
Vascular Plant	Cardamine douglassii	Purple Cress	G5	S1	E	
Vascular Plant	Cardamine pratensis var palustris	Fen Cuckoo Flower	G5T5	S1	T	
Vascular Plant	Lobelia siphilitica	Great Blue Lobelia	G5	S1	E	
Vascular Plant	Cerastium nutans	Nodding Chickweed	G5	S1	E	
Vascular Plant	Minuartia michauxii	Michaux's Sandwort	G5	S2	T	
Vascular Plant	Moehringia macrophylla	Large-leaved Sandwort	G4	S1	E	
Vascular Plant	Hypericum ascyron	Giant St. John's-wort	G4	S1	E	
Vascular Plant	Calystegia spithamea	Low Bindweed	G4G5	S1	E	
Vascular Plant	Lonicera hirsuta	Hairy Honeysuckle	G4G5	S1	E	
Vascular Plant	Viburnum rafinesquianum	Downy Arrowwood	G5	S1	E	

Vascular Plant	Rhododendron maximum	Great Laurel	G5	S1S2	T	
Vascular Plant	Vaccinium vitis-idaea ssp minus	Mountain Cranberry	G5T5	S1	E	
Vascular Plant	Lespedeza violacea	Violet Bush-clover	G5	S4	- WL	
Vascular Plant	Senna hebecarpa	Wild Senna	G5	S1	E	
Vascular Plant	Quercus macrocarpa	Mossy-cup Oak	G5	S3	SC	
Vascular Plant	Quercus muehlenbergii	Yellow Oak	G5	S2	T	
Vascular Plant	Adlumia fungosa	Climbing Fumitory	G4	S2	T	
Vascular Plant	Gentiana andrewsii	Andrews' Bottle Gentian	G5?	S1	E	
Vascular Plant	Gentianopsis crinita	Fringed Gentian	G5	S4	- WL	
Vascular Plant	Halenia deflexa	Spurred Gentian	G5	S1	E	
Vascular Plant	Ribes americanum	Wild Black Currant	G5	S4	- WL	
Vascular Plant	Ribes lacustre	Bristly Black Currant	G5	S3	SC	
Vascular Plant	Ribes triste	Swamp Red Currant	G5	S3	- WL	
Vascular Plant	Myriophyllum farwellii	Farwell's Water-milfoil	G5	S1	E	
Vascular Plant	Myriophyllum verticillatum	Comb Water-milfoil	G5	S2	E	
Vascular Plant	Hydrophyllum canadense	Broad Waterleaf	G5	S1	E	
Vascular Plant	Agastache scrophulariifolia	Purple Giant Hyssop	G4	S1	- H	
Vascular Plant	Blephilia ciliata	Downy Wood-mint	G5	S1	E	
Vascular Plant	Blephilia hirsuta	Hairy Wood-mint	G5?	S1	E	
Vascular Plant	Stachys palustris	Woundwort	G5?	S2	- WL	
Vascular Plant	Trichostema brachiatum	False Pennyroyal	G4G5	S1	E	
Vascular Plant	Linum medium var texanum	Rigid Flax	G5T5	S2	T	
Vascular Plant	Morus rubra	Red Mulberry	G5	S1	E	
Vascular Plant	Nuphar microphylla	Tiny Cow-lily	G5T4T5	S1	E	
Vascular Plant	Polygala senega	Seneca Snakeroot	G4G5	SX	- H	
Vascular Plant	Podostemum ceratophyllum	Threadfoot	G5	S2	SC	
Vascular Plant	Claytonia virginica	Narrow-leaved Spring Beauty	G5	S1	E	
Vascular Plant	Pyrola asarifolia var purpurea	Pink Pyrola	G5T4	S1	E	
Vascular Plant	Cimicifuga racemosa	Black Cohosh	G4	S1	E	
Vascular Plant	Clematis occidentalis	Purple Clematis	G5	S2	SC	
Vascular Plant	Hydrastis canadensis	Golden Seal	G4	S1	E	
Vascular Plant	Ranunculus aquatilis var diffusus	Long-beaked Water-crowfoot	G5	S4	- WL	
Vascular Plant	Ranunculus micranthus	Tiny-flowered Buttercup	G5	S1	E	
Vascular Plant	Ranunculus pensylvanicus	Bristly Buttercup	G5	S2	T	
Vascular Plant	Agrimonia parviflora	Small-flowered Agrimony	G5	S1	E	
Vascular Plant	Agrimonia pubescens	Hairy Agrimony	G5	S2	T	
Vascular Plant	Amelanchier bartramiana	Bartram's Shadbush	G5	S2	T	
Vascular Plant	Amelanchier sanguinea	Roundleaf Shadbush	G5	S3	SC	



Vascular Plant	<i>Prunus pumila</i> var <i>depressa</i>	Sandbar Cherry	G5T5	S2	T	
Vascular Plant	<i>Rosa acicularis</i>	Northern Prickly Rose	G5	S1	E	
Vascular Plant	<i>Sorbus decora</i>	Northern Mountain-ash	G4G5	S1	E	
Vascular Plant	<i>Waldsteinia fragarioides</i>	Barren Strawberry	G5	S3	SC	
Vascular Plant	<i>Galium boreale</i>	Northern Bedstraw	G5	S1	E	
Vascular Plant	<i>Galium labradoricum</i>	Labrador Bedstraw	G5	S2	T	
Vascular Plant	<i>Houstonia longifolia</i> var <i>longifolia</i>	Long-leaved Bluet	G4G5T?	S1	E	
Vascular Plant	<i>Salix candida</i>		G5	S?	- WL	
Vascular Plant	<i>Salix serissima</i>	Autumn Willow	G4	S3	- WL	
Vascular Plant	<i>Mimulus moschatus</i>	Muskflower	G4G5	S1	E	
Vascular Plant	<i>Penstemon hirsutus</i>	Hairy Beardtongue	G4	S1	E	
Vascular Plant	<i>Veronica catenata</i>	Sessile Water-speedwell	G5	S1	E	
Vascular Plant	<i>Veronicastrum virginicum</i>	Culver's-root	G4	S2	T	
Vascular Plant	<i>Verbena simplex</i>	Narrow-leaved Vervain	G5	S1	E	
Vascular Plant	<i>Viola nephrophylla</i>	Northern Bog Violet	G5	S1	E	
Vascular Plant	<i>Arceuthobium pusillum</i>	Dwarf Mistletoe	G5	S3	SC	
Vascular Plant	<i>Thuja occidentalis</i>	Arborvitae	G5	S1	E	
Vascular Plant	<i>Sagittaria cuneata</i>	Wapato	G5	S2	T	
Vascular Plant	<i>Arisaema dracontium</i>	Green Dragon	G5	S2	T	
Vascular Plant	<i>Orontium aquaticum</i>	Golden Club	G5	S1	E	
Vascular Plant	<i>Carex alopecoidea</i>	Foxtail Sedge	G5	S2	T	
Vascular Plant	<i>Carex baileyi</i>	Bailey's Sedge	G4	S1	E	
Vascular Plant	<i>Carex bushii</i>	Bush's Sedge	G4	S1	E	
Vascular Plant	<i>Carex castanea</i>	Chestnut-colored Sedge	G5	S1	E	
Vascular Plant	<i>Carex chordorrhiza</i>	Creeping Sedge	G5	S1	E	
Vascular Plant	<i>Carex davisii</i>	Davis's Sedge	G4	S1	E	
Vascular Plant	<i>Carex deflexa</i>	A Sedge	G5	SH	- H	
Vascular Plant	<i>Carex formosa</i>	Handsome Sedge	G4	S1	T	
Vascular Plant	<i>Carex grayi</i>	Gray's Sedge	G4	S2	T	
Vascular Plant	<i>Carex haydenii</i>		G5	S?	- WL	
Vascular Plant	<i>Carex hitchcockiana</i>	Hitchcock's Sedge	G5	S3	SC	
Vascular Plant	<i>Carex lenticularis</i>	Shore Sedge	G5	S2	T	
Vascular Plant	<i>Carex michauxiana</i>	Michaux's Sedge	G5	S1	E	
Vascular Plant	<i>Carex pauciflora</i>	Few-flowered Sedge	G5	S1	E	
Vascular Plant	<i>Carex schweinitzii</i>	Schweinitz's Sedge	G3	S1	E	
Vascular Plant	<i>Carex sterilis</i>	Dioecious Sedge	G4	S2	T	
Vascular Plant	<i>Carex tetanica</i>	Fen Sedge	G4G5	S3	SC	
Vascular Plant	<i>Carex trichocarpa</i>	Hairy-fruited Sedge	G4	S1	T	

Vascular Plant	Carex tuckermanii	Tuckerman's Sedge	G4	S1	E	
Vascular Plant	Cyperus houghtonii	Houghton's Flatsedge	G4?	S1	E	
Vascular Plant	Eleocharis erythropoda	Redfoot Spike-rush	G5	S4	- WL	
Vascular Plant	Eleocharis intermedia	Intermediate Spike-sedge	G5	S2	T	
Vascular Plant	Eleocharis quinqueflora		G5	S1		
Vascular Plant	Eriophorum gracile	Slender Cottongrass	G5	S2	T	
Vascular Plant	Rhynchospora capillacea	Capillary Beak-sedge	G5	S1	E	
Vascular Plant	Scirpus pendulus	Pendulous Bulrush	G5	S3	- WL	
Vascular Plant	Sisyrinchium mucronatum	Slender Blue-eyed Grass	G5	S1	E	
Vascular Plant	Juncus filiformis	Thread Rush	G5	S1	E	
Vascular Plant	Luzula parviflora ssp melanocarpa	Black-fruited Woodrush	G5T5	S1	E	
Vascular Plant	Chamaelirium luteum	Devil's-bit	G5	S1	E	
Vascular Plant	Streptopus amplexifolius	White Mandarin	G5T5	S4	- WL	
Vascular Plant	Uvularia grandiflora	Large-flowered Bellwort	G5	S4	- WL	
Vascular Plant	Aplectrum hyemale	Putty-root	G5	S1	E	
Vascular Plant	Arethusa bulbosa	Arethusa	G4	S2	T	
Vascular Plant	Corallorhiza odontorhiza	Autumn Coralroot	G5	S3	SC	
Vascular Plant	Cypripedium arietinum	Ram's-head Lady's-slipper	G3	S1	E	
Vascular Plant	Cypripedium parviflorum var makasin	Small Yellow Lady's-slipper	G5T5	S1	E	
Vascular Plant	Cypripedium reginae	Showy Lady's-slipper	G4	S3	SC	
Vascular Plant	Goodyera repens	Dwarf Rattlesnake-plantain	G5	S1	E	
Vascular Plant	Isotria verticillata	Large Whorled Pogonia	G5	S4	- WL	
Vascular Plant	Malaxis monophyllos var. brachypoda	White Adder's-mouth	G4Q	S1	E	
Vascular Plant	Platanthera dilatata	Leafy White Orchis	G5	S2	T	
Vascular Plant	Platanthera flava var herbiola	Pale Green Orchis	G4T4Q	S2	T	
Vascular Plant	Spiranthes romanzoffiana	Hooded Ladies'-tresses	G5	S1	E	
Vascular Plant	Triphora trianthophora	Nodding Pogonia	G3G4	S1	E	
Vascular Plant	Elymus villosus	Hairy Wild Rye	G5	S1	E	
Vascular Plant	Eragrostis frankii	Frank's Lovegrass	G5	S3	SC	
Vascular Plant	Milium effusum	Woodland Millet	G5	S2	T	
Vascular Plant	Panicum philadelphicum ssp. gattingeri	Gattinger's Panic-grass	G4	S2	SC	
Vascular Plant	Poa languida	Drooping Speargrass	G3G4Q	S1	E	
Vascular Plant	Sphenopholis nitida	Shining Wedgegrass	G5	S2	T	
Vascular Plant	Sporobolus neglectus	Small Dropseed	G5	S1	E	
Vascular Plant	Trisetum triflorum ssp molle	Spiked False Oats	G5T4T5	S1	E	
Vascular Plant	Potamogeton alpinus	Northern Pondweed	G5	SX	- H	
Vascular Plant	Potamogeton friesii	Fries' Pondweed	G4	S1	E	
Vascular Plant	Potamogeton hillii	Hill's Pondweed	G3	S3	SC	

Vascular Plant	Potamogeton ogdenii	Ogden's Pondweed	G1	S1	E	
Vascular Plant	Potamogeton strictifolius	Straight-leaved Pondweed	G5	S1	-	
Vascular Plant	Potamogeton vaseyi	A Pondweed	G4	S1	E	
Vascular Plant	Scheuchzeria palustris	Pod-grass	G5	S1	E	
Vascular Plant	Sparganium natans	Small Bur-reed	G5	S1	E	
Vascular Plant	Cryptogramma stelleri	Fragile Rock-brake	G5	S1	E	
Vascular Plant	Pellaea atropurpurea	Purple Cliff-brake	G5	S4	- WL	
Vascular Plant	Asplenium montanum	Mountain Spleenwort	G5	S1	E	
Vascular Plant	Asplenium ruta-muraria	Wall-rue Spleenwort	G5	S2	T	
Vascular Plant	Diplazium pycnocarpon	Glade Fern	G5	S4	- WL	
Vascular Plant	Dryopteris goldiana	Goldie's Fern	G4	S4	- WL	
Vascular Plant	Polystichum braunii	Braun's Holly-fern	G5	S1	E	
Vascular Plant	Woodsia glabella	Smooth Woodsia	G5	S1	E	
Vascular Plant	Equisetum scirpoides	Dwarf Scouring-rush	G5	S3	SC	
Vascular Plant	Equisetum variegatum	Variegated Horsetail	G5	S3	- WL	
Vascular Plant	Trichomanes intricatum	A Filmy-fern	G3G4	S1	E	
Vascular Plant	Huperzia appalachiana		G4G5	SH	- H	
Vascular Plant	Ophioglossum pusillum	Adder's-tongue Fern	G5	S2	T	
Vascular Plant	Lygodium palmatum	Climbing Fern	G4	S3	SC	
Vascular Plant	Selaginella rupestris	Rock Spikemoss	G5	S4	- WL	

## B. Natural Communities

<b>Natural Community</b>	<b>Srank</b>
Acidic Graminoid Fen	S3
Acidic Rock Cliff Community	S4
Acidic Rocky Summit/rock Outcrop Community	S4
Acidic Shrub Fen	S3
Acidic Talus Forest/woodland	S4
Black Ash Swamp	S2
Black Ash-Red Maple-Tamarack Calcareous Seepage Swamp	S2
Black Gum Swamp	S2
Calcareous Basin Fen	S1
Calcareous Forest Seep Community	S2
Calcareous Pondshore/Lakeshore	S2
Calcareous Rock Cliff Community	S3
Calcareous Rocky Summit/Rock Outcrop Community	S2
Calcareous Seepage Marsh	S2
Calcareous Sloping Fen	S2
Calcareous Talus Forest/Woodland	S3
Circumneutral Rock Cliff Community	S3
Circumneutral Rocky Summit/ Rock Outcrop Community	S2S3
Circumneutral Talus Forest/Woodland	S3
Cobble Bar Forest	S2
Deep Emergent Marsh	S4
Forest Seep Community	S4
Hemlock Ravine Community	S4
Hemlock-Hardwood Swamp	S4
Hickory - Hop Hornbeam Forest/Woodland	S2
High Elevation Spruce - Fir Forest/Woodland	S2
High-Energy Riverbank	S3
High-Terrace Floodplain Forest	S2
Kettlehole Level Bog	S2
Level Bog	S3
Major-River Floodplain Forest	S2
Mixed Oak Forest	S5
Northern Hardwoods - Hemlock - White Pine Forest	S5
Red Oak - Sugar Maple Transition Forest	S4
Rich, Mesic Forest Community	S3
Ridgetop Chestnut Oak Forest/Woodland	S4
Ridgetop Pitch Pine - Scrub Oak Community	S2
Riverside Rock Outcrop Community	S3
Riverside Seep	S2
Shallow Emergent Marsh	S4
Shrub Swamp	S5
Small-River Floodplain Forest	S2
Spruce - Fir - Northern Hardwoods Forest	S4
Spruce-Fir Boreal Swamp	S3
Transitional Floodplain Forest	S2
Wet Meadow	S4

### Codes:

<b>Grank:</b>	
G2	<b>Imperiled</b> —Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction or elimination. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or linear miles (10 to 50).
G3	<b>Vulnerable</b> —Vulnerable globally either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction or elimination. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.
G4	<b>Apparently Secure</b> —Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.
G5	<b>Secure</b> —Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.
Q	<b>Questionable taxonomy that may reduce conservation priority</b> — Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank.
T#	<b>Infraspecific Taxon</b> (trinomial)—The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T subrank cannot imply the subspecies or variety is more abundant than the species, for example, a G1T2 subrank should not occur. A vertebrate animal population (e.g., listed under the U.S. Endangered Species Act or assigned candidate status) may be tracked as an infraspecific taxon and given a T rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status.
<b>Srank:</b>	
S1	Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream or especially vulnerable to extirpation in Massachusetts for other reasons.
S2	Typically 6 - 20 occurrences, few remaining individuals, acres, or miles of stream or very vulnerable to extirpation in Massachusetts for other reasons.
S3	Typically 21 - 100 occurrences, limited acreage, or miles of stream in Massachusetts.
S4	Apparently secure in Massachusetts.
S5	Demonstrably secure in Massachusetts
<b>DFW Rank:</b>	
E	Endangered
SC	Special Concern
T	Threatened
<b>Federal Rank:</b>	
PS	Indicates "partial status" - status in only a portion of the species' range. Typically indicated in a "full" species record where an infraspecific taxon or population has U.S. ESA status, but the entire species does not.
LT	Listed threatened
PDL	Proposed for delisting

## APPENDIX VIII. Invasive Plants References

“[Invasivespecies.gov](http://invasivespecies.gov) is the gateway to Federal efforts concerning invasive species. On this site you can learn about the [impacts](#) of invasive species and the Federal government's [response](#), as well as read select [species profiles](#) and find links to [agencies and organizations](#) dealing with invasive species issues. Invasivespecies.gov is also the Web site for the [National Invasive Species Council](#), which coordinates Federal [responses](#) to the problem”.

Additional invasive plant information can be found at the Invasive Plant Atlas of New England (IPANE) project at: ([invasives.eeb.uconn.edu/ipane/](http://invasives.eeb.uconn.edu/ipane/)). Data in the atlas are captured by town and summarized by county. This is a trained volunteer mapping and documentation effort, and *by no means a complete survey*.

“Massachusetts Aquatic Invasive Species Management Plan”, (Massachusetts Aquatic INVASIVE SPECIES WORKING GROUP), Prepared by: The Massachusetts Office of Coastal Zone Management, December 2002, see: [www.mass.gov/czm/invasivemanagementplan.htm](http://www.mass.gov/czm/invasivemanagementplan.htm)

*Excellent reviews of invasives and control methods include:*

Tu, M., Hurd, C., & J.M. Randall, 2001. Weed Control Methods Handbook, The Nature Conservancy, [tncweeds.ucdavis.edu](http://tncweeds.ucdavis.edu), Version: April 2001.

Invasive Plants of the Eastern United States: Identification and Control. [www.invasive.org/eastern/](http://www.invasive.org/eastern/)

Harvard Forest has initiated invasive plant research on a variety of scales. For details, see: [harvardforest.fas.harvard.edu/research/invasives.html](http://harvardforest.fas.harvard.edu/research/invasives.html)

**See the lists (tables) on the pages below:**

The table below shows the documented occurrences of invasive plant species in the 4 counties of the Berkshire Ecoregions from Sorrie, B.A., and P. Somers. 1999<sup>1</sup>.

SCEINTIFIC NAME	COMMON NAME	CATEGORY	COUNTIES			
			Berkshire	Franklin	Hampden	Hampshire
<i>Acer platanoides</i>	Norway Maple	Invasive	X	X	X	X
<i>Acer pseudoplatanus</i>	Sycamore Maple	Invasive			X	
<i>Aegopodium podagraria</i>	Goutweed	Invasive	X	X	X	X
<i>Ailanthus altissima</i>	Tree-of-heaven	Invasive		X	X	X
<i>Alliaria petiolata</i>	Garlic Mustard	Invasive	X	X	X	X
<i>Ampelopsis brevipedunculata</i>	Porcelain-berry	Likely invasive				X
<i>Berberis thunbergii</i>	Japanese Barberry	Invasive	X	X	X	X
<i>Berberis vulgaris</i>	European Barberry	Likely invasive	X	X	X	X
<i>Cabomba caroliniana</i>	Fanwort	Invasive	X	X	X	X
<i>Celastrus orbiculatus</i>	Oriental Bittersweet	Invasive	X	X	X	X
<i>Centaurea biebersteinii</i>	Spotted Knapweed	Likely invasive	X	X	X	X
<i>Cynanchum louiseae</i>	Black Swallow-wort	Invasive	X	X	X	X
<i>Elaeagnus umbellata</i>	Autumn Olive	Invasive	X	X	X	X
<i>Epilobium hirsutum</i>	Hairy Willow-herb	Likely invasive	X		X	
<i>Euonymus alatus</i>	Winged Euonymous, Burning Bush	Invasive	X		X	X
<i>Euphorbia cyparissias</i>	Cypress Spurge	Likely invasive	X	X	X	X
<i>Euphorbia esula</i>	Leafy Spurge	Invasive		X	X	
<i>Hesperis matronalis</i>	Dame's Rocket	Invasive	X	X	X	X
<i>Iris pseudacorus</i>	Yellow Iris	Invasive	X	X	X	X
<i>Lonicera bella</i>	Morrow/Tartarian Honeysuckle (cross)	Invasive	X	X		
<i>Lonicera japonica</i>	Japanese Honeysuckle	Invasive				X
<i>Lonicera maackii</i>	Amur Honeysuckle	Potentially invasive			X	X
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	Invasive	X	X	X	X
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	Likely invasive	X		X	X
<i>Lysimachia nummularia</i>	Moneywort	Invasive	X	X	X	X
<i>Lythrum salicaria</i>	Purple Loosestrife	Invasive	X	X	X	X
<i>Myosotis scorpiodes</i>	True Forget-me-not	Likely invasive	X	X	X	X
<i>Myriophyllum heterophyllum</i>	Variable Water-milfoil	Invasive	X		X	
<i>Myriophyllum spicatum</i>	Eurasian Water-milfoil	Invasive	X		X	
<i>Phragmites australis</i>	Common Reed	Invasive	X	X	X	X
<i>Polygonum cuspidatum</i>	Japanese Knotweed	Invasive	X	X	X	X
<i>Ranunculus repens</i>	Creeping Buttercup	Likely invasive	X	X	X	X
<i>Rhamnus cathartica</i>	Common Buckthorn	Invasive	X	X	X	X
<i>Frangula alnus</i>	European/Glossy Buckthorn	Invasive	X	X	X	X
<i>Robinia pseudoacacia</i>	Black Locust	Invasive	X	X	X	X
<i>Rubus phoenicolasius</i>	Wineberry	Likely invasive				X
<i>Trapa natans</i>	Water Chestnut	Invasive	X			X
<i>Tussilago farfara</i>	Coltsfoot	Likely invasive	X	X	X	X

<sup>1</sup>Presence data and nomenclature from Sorrie and Somers, 1999.

**Final Report: “The Evaluation of Non-Native Plant Species for Invasiveness in  
Massachusetts” Massachusetts Invasive Plant Advisory Group, February 28, 2005 21  
Species Reviewed (Phases I and II): Listed by Category**

<b><u>Species</u></b>	<b><u>Common name</u></b>	<b><u>Category</u></b>
<i>Acer platanoides</i>	Norway maple	Invasive
<i>Acer pseudoplatanus</i>	Sycamore maple	Invasive
<i>Aegopodium podagraria</i>	Bishop’s goutweed, bishop’s weed; goutweed	Invasive
<i>Ailanthus altissima</i>	Tree of heaven	Invasive
<i>Alliaria petiolata</i>	Garlic mustard	Invasive
<i>Berberis thunbergii</i>	Japanese barberry	Invasive
<i>Cabomba caroliniana</i>	Carolina fanwort; fanwort	Invasive
<i>Celastrus orbiculatus</i>	Oriental bittersweet; Asian or Asiatic bittersweet	Invasive
<i>Cynanchum louiseae</i>	Black swallow-wort; Louise’s swallow-wort	Invasive
<i>Elaeagnus umbellata</i>	Autumn olive	Invasive
<i>Euonymus alatus</i>	Winged euonymus, burning bush	Invasive
<i>Euphorbia esula</i>	Leafy spurge; wolf’s milk	Invasive
<i>Frangula alnus</i>	European buckthorn, glossy buckthorn	Invasive
<i>Glaucium flavum</i>	Sea or horned poppy, yellow hornpoppy	Invasive
<i>Hesperis matronalis</i>	Dame’s rocket	Invasive
<i>Iris pseudacorus</i>	Yellow iris	Invasive
<i>Lepidium latifolium</i>	Broad-leaved pepperweed, tall pepperweed	Invasive
<i>Lonicera japonica</i>	Japanese honeysuckle	Invasive
<i>Lonicera morrowii</i>	Morrow’s honeysuckle	Invasive
<i>Lonicera x bella [morrowii x tatarica]</i>	Bell’s honeysuckle	Invasive
<i>Lysimachia nummularia</i>	Creeping jenny, moneywort	Invasive
<i>Lythrum salicaria</i>	Purple loosestrife	Invasive
<i>Myriophyllum heterophyllum</i>	Variable water-milfoil; two-leaved water-milfoil	Invasive
<i>Myriophyllum spicatum</i>	Eurasian or European water-milfoil; spike water-milfoil	Invasive
<i>Phalaris arundinacea</i>	Reed canary-grass	Invasive
<i>Phragmites australis</i>	Common reed	Invasive
<i>Polygonum cuspidatum</i>	Japanese knotweed; Japanese or Mexican bamboo	Invasive
<i>Potamogeton crispus</i>	Crisped pondweed, curly pondweed	Invasive
<i>Ranunculus ficaria</i>	Lesser celandine; fig buttercup	Invasive
<i>Rhamnus cathartica</i>	Common buckthorn	Invasive
<i>Robinia pseudoacacia</i>	Black locust	Invasive
<i>Rosa multiflora</i>	Multiflora rose	Invasive
<i>Trapa natans</i>	Water-chestnut	Invasive
<i>Ampelopsis brevipedunculata</i>	Porcelain-berry; Amur peppervine	Likely invasive
<i>Anthriscus sylvestris</i>	Wild chervil	Likely invasive
<i>Berberis vulgaris</i>	Common barberry; European barberry	Likely Invasive



<i>Cardamine impatiens</i>	Bushy rock-cress; narrowleaf bittercress	Likely Invasive
<i>Centaurea biebersteinii</i>	Spotted knapweed	Likely Invasive
<i>Cynanchum rossicum</i>	European swallow-wort, pale swallow-wort	Likely Invasive
<i>Egeria densa</i>	Brazilian water weed; Brazilian elodea	Likely Invasive
<i>Epilobium hirsutum</i>	Hairy willow herb; Codlins and cream	Likely Invasive
<i>Euphorbia cyparissias</i>	Cypress spurge	Likely Invasive
<i>Festuca filiformis</i>	Hair fescue; fineleaf sheep fescue	Likely Invasive
<i>Glyceria maxima</i>	Tall mannagrass; reed mannagrass	Likely Invasive
<i>Heracleum mantegazzianum</i>	Giant hogweed	Likely Invasive
<i>Humulus japonicus</i>	Japanese hops	Likely Invasive
<i>Hydrilla verticillata</i>	Hydrilla; water-thyme; Florida elodea	Likely Invasive
<i>Ligustrum obtusifolium</i>	Border privet	Likely Invasive
<i>Lonicera tatarica</i>	Tatarian honeysuckle	Likely invasive
<i>Microstegium vimineum</i>	Japanese stilt grass, Nepalese browntop	Likely Invasive
<i>Miscanthus sacchariflorus</i>	Plume grass; Amur silvergrass	Likely Invasive
<i>Myosotis scorpioides</i>	Forget-me-not	Likely Invasive
<i>Myriophyllum aquaticum</i>	Parrot-feather; water-feather; Brazilian water-milfoil	Likely Invasive
<i>Najas minor</i>	Brittle water-nymph, lesser naiad	Likely Invasive
<i>Nymphoides peltata</i>	Yellow floating heart	Likely Invasive
<i>Phellodendron amurense</i>	Amur cork-tree	Likely Invasive
<i>Pueraria montana</i>	Kudzu; Japanese arrowroot	Likely Invasive
<i>Ranunculus repens</i>	Creeping buttercup	Likely Invasive
<i>Rorippa amphibia</i>	Water yellowcress; great yellowcress	Likely Invasive
<i>Rubus phoenicolasius</i>	Wineberry; Japanese wineberry; wine raspberry	Likely Invasive
<i>Senecio jacobaea</i>	Tansy ragwort; stinking Willie	Likely Invasive
<i>Tussilago farfara</i>	Coltsfoot	Likely Invasive
<i>Arthraxon hispidus</i>	Hairy joint grass; jointhead; small carpetgrass	Potentially Invasive
<i>Carex kobomugi</i>	Japanese sedge, Asiatic sand sedge	Potentially Invasive
<i>Lonicera maackii</i>	Amur honeysuckle	Potentially Invasive.
<i>Polygonum perfoliatum</i>	Mile-a-minute vine or weed; Asiatic tearthumb	Potentially Invasive
<i>Actinidia arguta</i>	Hardy kiwi; tara vine	Do not list at this time
<i>Akebia quinata</i>	Five-leaved Akebia; chocolate vine	Do not list at this time
<i>Catalpa speciosa</i>	Northern catalpa	Do not list at this time
<i>Cytisus scoparius</i>	Scotch broom; English broom	Do not list at this time
<i>Elaeagnus angustifolia</i>	Russian olive	Do not list at this time
<i>Festuca ovina</i>	Sheep fescue	Do not list at this time
<i>Ligustrum ovalifolium</i>	California privet	Do not list at this time
<i>Ligustrum sinense</i>	Chinese privet	Do not list at this time
<i>Ligustrum vulgare</i> L.	European privet	Do not list at this time
<i>Lonicera xylosteum</i>	Dwarf honeysuckle	Do not list at this time
<i>Miscanthus sinensis</i>	Eulalia; Chinese silvergrass	Do not list at this time
<i>Morus alba</i>	White mulberry	Do not list at this time
<i>Polygonum sachalinense</i>	Giant knotweed	Do not list at this time

<i>Populus alba</i>	White poplar	Do not list at this time
<i>Rorippa microphylla</i>	Watercress; onerow yellowcress	Do not list at this time
<i>Rorippa nasturtium-aquaticum</i>	Watercress	Do not list at this time
<i>Rosa rugosa</i>	Japanese rose; rugosa rose	Do not list at this time
<i>Sedum telephium</i> ssp. <i>telephium</i>	Live-forever; orpine; witch's moneybags	Do not list at this time
<i>Verbascum thapsus</i>	Common mullein; flannel mullein; velvet plant	Do not list at this time

**Appendix IX. Listing of Old Growth Forest Acreages:**  
**Confirmed by "Friends of Mohawk Trail State Forest" and Associates**

<b>Ecoregion</b>	<b>Primary</b>	<b>Primary &amp; Secondary</b>	<b>Steep Terrain</b>
Berkshire-Vermont Upland	637.0	1,679.0	2,977.5
Taconic Mountains Ecoregion	276.0	1,892.0	2,842.0
Taconic Highlands Association	264.0	1,834.0	2,744.0
Western New England Marble Valley Association	12.0	58.0	98.0
<b>Totals</b>	<b>913.0</b>	<b>3,571.0</b>	<b>5,819.5</b>

Prepared by Robert T. Leverett and Gary Beluzo, with input from Tony D'Amato and David Orwig - 6/20/2005

**Notes**

1. Primary forest is defined as forests that were never logged or clear for other reasons.
2. Secondary forest is defined as forests that have been impacted by human intervention.
3. Primary and secondary forests can possess old growth characteristics, although primary forests will usually possess the characteristics to a greater degree, i.e. the more complete development of the characteristics.
4. Areas of primary forest exhibiting high age characteristics total about 900 acres.
5. Secondary old growth can look very similar to an untrained eye. From an aesthetics standpoint no distinction need necessarily be made. However, the same can not be said in terms of ecological distinction.
6. Steep terrain boundaries encompassing the old growth generally form logical administrative boundaries for management purposes.
7. The steep terrain acreages can usually be used to define the buffers.
8. Efforts continue by FMTSF, Harvard Forest, and other researchers to refine old growth boundaries through increasingly sophisticated studying and mapping. Tony D'Amato of UMASS is currently working on a doctorate delineating old growth that best fits the primary forest old growth classification. Robert T. Leverett and Gary Beluzo with continue to identify old growth candidates and tighten boundaries of existing areas and will coordinate with Dr. David Orwig of Harvard Forest and Tony D'Amato of UMASS. Other consultants include Dr. Lee Frelich, Dr. Tom Wessels, and Dr. Charles Cogbill.
9. The acreages are close to what has been previously listed in briefings to DCR by Gary Beluzo and Bob Leverett. However, this information may be incomplete and further results are pending.

## Appendix X.

**DEPARTMENT OF CONSERVATION & RECREATION  
DIVISION OF STATE PARKS & RECREATION  
BERKSHIRE ECOREGIONS (DCR FACILITIES - COMMUNITY & ACRES)**

<b>Municipality</b>	<b>Area Name</b>	<b>Acres</b>
DALTON	APPALACHIAN TRAIL CORRIDOR	840
EGREMONT		80
GREAT BARRINGTON		51
HINSDALE		6
MONTEREY		56
MOUNT WASHINGTON		353
WASHINGTON		80
	<b>Sub-total</b>	<b>1,466</b>
MONTEREY	ARTHUR WHARTON SWANN SF	850
	<b>Sub-total</b>	<b>850</b>
HINSDALE	ASHMERE LAKE SP	180
PERU		22
	<b>Sub-total</b>	<b>203</b>
ADAMS	ASHUWILLTICOOK RAIL TRAIL	5
	<b>Sub-total</b>	<b>5</b>
LANESBOROUGH	BALANCE ROCK SP	137
	<b>Sub-total</b>	<b>137</b>
MOUNT WASHINGTON	BASHBISH FALLS SP	407
	<b>Sub-total</b>	<b>407</b>
HANCOCK	BATES MEMORIAL SP	421
	<b>Sub-total</b>	<b>421</b>
GREAT BARRINGTON	BEARTOWN SF	5,011
LEE		634
MONTEREY		3,717
NEW MARLBOROUGH		124
OTIS		199
STOCKBRIDGE		453
TYRINGHAM		384
	<b>Sub-total</b>	<b>10,522</b>
BECKET	BECKET SF	611
	<b>Sub-total</b>	<b>611</b>
CUMMINGTON	BRYANT MOUNTAIN SF	617
	<b>Sub-total</b>	<b>617</b>
BUCKLAND	BUCKLAND SF	93
	<b>Sub-total</b>	<b>93</b>
HUNTINGTON	C.M. GARDNER SP	85
	<b>Sub-total</b>	<b>85</b>
NEW MARLBOROUGH	CAMPBELLS FALLS SP	138
	<b>Sub-total</b>	<b>138</b>
COLRAIN	CATAMOUNT SF	1,344

	<b>Sub-total</b>	<b>1,344</b>
BLANDFORD	CHESTER-BLANDFORD SF	1,539
CHESTER		1,238
	<b>Sub-total</b>	<b>2,777</b>
SANDSFIELD	CLAM LAKE F.C. SITE	500
	<b>Sub-total</b>	<b>500</b>
CLARKSBURG	CLARKSBURG SF	3,305
NORTH ADAMS		96
	<b>Sub-total</b>	<b>3,401</b>
CONWAY	CONWAY SF	1,702
WILLIAMSBURG		54
	<b>Sub-total</b>	<b>1,756</b>
NEW MARLBOROUGH	COOKSON SF	2,274
SANDSFIELD		524
	<b>Sub-total</b>	<b>2,798</b>
ASHFIELD	D.A.R. SF	201
GOSHEN		1,437
	<b>Sub-total</b>	<b>1,638</b>
CHESTERFIELD	DEAD BRANCH SF	71
	<b>Sub-total</b>	<b>71</b>
CUMMINGTON	DEER HILL SR	136
PLAINFIELD		215
	<b>Sub-total</b>	<b>351</b>
BUCKLAND	DUBUQUE MEMORIAL SF	48
HAWLEY		6,258
PLAINFIELD		1,124
WINDSOR		6
	<b>Sub-total</b>	<b>7,436</b>
GREAT BARRINGTON	EAST MOUNTAIN SF	1,798
NEW MARLBOROUGH		7
SHEFFIELD		199
	<b>Sub-total</b>	<b>2,004</b>
FLORIDA	FLORIDA SF	1,588
NORTH ADAMS		25
	<b>Sub-total</b>	<b>1,613</b>
GREAT BARRINGTON	FOUNTAIN POND PARK	250
	<b>Sub-total</b>	<b>250</b>
CHESTERFIELD	GILBERT A. BLISS SF	2,074
CUMMINGTON		412
	<b>Sub-total</b>	<b>2,486</b>
GRANVILLE	GRANVILLE SF	1,702
TOLLAND		730
	<b>Sub-total</b>	<b>2,432</b>

ADAMS	GREYLOCK CENTER	1,097
	<b>Sub-total</b>	<b>1,097</b>
COLRAIN	H.O. COOK SF	919
HEATH		915
	<b>Sub-total</b>	<b>1,834</b>
HUNTINGTON	HUNTINGTON SF	730
MONTGOMERY		2
	<b>Sub-total</b>	<b>732</b>
EGREMONT	JUG END SR	19
EGREMONT	JUG END SR & WMA	1,171
	<b>Sub-total</b>	<b>1,190</b>
CHESTERFIELD	KRUG SUGARBUSH	84
	<b>Sub-total</b>	<b>84</b>
LEE	LAUREL LAKE BOAT RAMP	0
	<b>Sub-total</b>	<b>0</b>
LEYDEN	LEYDEN SF	61
	<b>Sub-total</b>	<b>61</b>
HINSDALE	MIDDLEFIELD SF	4
MIDDLEFIELD		2,401
PERU		1,272
	<b>Sub-total</b>	<b>3,677</b>
CHARLEMONT	MOHAWK TRAIL SF	1,908
FLORIDA		1,834
HAWLEY		1,647
SAVOY		2,371
	<b>Sub-total</b>	<b>7,760</b>
FLORIDA	MONROE SF	1,130
MONROE		2,620
ROWE		251
	<b>Sub-total</b>	<b>4,001</b>
EGREMONT	MT EVERETT SR	28
MOUNT WASHINGTON		1,301
SHEFFIELD		345
	<b>Sub-total</b>	<b>1,674</b>
ADAMS	MT GREYLOCK SR	2,645
CHESHIRE		1,460
LANESBOROUGH		474
NEW ASHFORD		3,365
NORTH ADAMS		1,010
WILLIAMSTOWN		3,614
	<b>Sub-total</b>	<b>12,568</b>
MOUNT WASHINGTON	MT WASHINGTON SF	4,584
	<b>Sub-total</b>	<b>4,584</b>
NORTH ADAMS	NATURAL BRIDGE SP	44

	<b>Sub-total</b>	<b>44</b>
NORTHFIELD	NORTHFIELD SF	237
	<b>Sub-total</b>	<b>237</b>
BECKET	OCTOBER MOUNTAIN SF	2,674
LEE		1,382
LENOX		625
PITTSFIELD		391
WASHINGTON		11,259
	<b>Sub-total</b>	<b>16,331</b>
BECKET	OTIS SF	225
OTIS		2,662
SANDISFIELD		913
	<b>Sub-total</b>	<b>3,800</b>
MIDDLEFIELD	PERU SF	412
PERU		1,516
WORTHINGTON		832
	<b>Sub-total</b>	<b>2,760</b>
HANCOCK	PITTSFIELD SF	6,530
LANESBOROUGH		1,972
PITTSFIELD		1,433
RICHMOND		80
	<b>Sub-total</b>	<b>10,015</b>
PITTSFIELD	REGION V HEADQUARTERS	72
	<b>Sub-total</b>	<b>72</b>
NEW MARLBOROUGH	SANDISFIELD STATE FOREST	1,067
SANDISFIELD		4,314
	<b>Sub-total</b>	<b>5,381</b>
ADAMS	SAVOY MOUNTAIN STATE FOREST	494
FLORIDA		603
NORTH ADAMS		535
SAVOY		8,552
	<b>Sub-total</b>	<b>10,184</b>
SHELBURNE	SHELBURNE STATE FOREST	72
	<b>Sub-total</b>	<b>72</b>
SANDISFIELD	SILVER BROOK NORTH F.C. SITE	213
	<b>Sub-total</b>	<b>213</b>
CONWAY	SOUTH RIVER STATE FOREST	561
	<b>Sub-total</b>	<b>561</b>
TYRINGHAM	SUNSET FARM	121
	<b>Sub-total</b>	<b>121</b>
HANCOCK	TACONIC TRAIL STATE FOREST	140
WILLIAMSTOWN		2,059
	<b>Sub-total</b>	<b>2,199</b>
BLANDFORD	TOLLAND STATE FOREST	744

OTIS		1,054
TOLLAND		2,612
	<b>Sub-total</b>	<b>4,410</b>
DALTON	WAHCONAH FALLS STATE PARK	21
HINSDALE		10
WINDSOR		14
	<b>Sub-total</b>	<b>45</b>
NORTH ADAMS	WESTERN GATEWAY HSP	8
	<b>Sub-total</b>	<b>8</b>
MIDDLEFIELD	WESTFIELD RIVER ACCESS	1
	<b>Sub-total</b>	<b>1</b>
SAVOY	WINDSOR STATE FOREST	209
WINDSOR	WINDSOR STATE FOREST	1,628
	<b>Sub-total</b>	<b>1,837</b>
WORTHINGTON	WORTHINGTON STATE FOREST	183
	<b>Sub-total</b>	<b>183</b>
CLARKSBURG SP		144
	<b>Sub-total</b>	<b>144</b>
	<b>TOTAL ACRES</b>	<b>144,289</b>

Source: MassGIS



## Appendix XI.

**DEPARTMENT OF FISH & GAME  
DIVISION OF FISHERIES & WILDLIFE  
BERKSHIRE ECOREGIONS (DFW FACILITIES - COMMUNITY & ACRES)**

<b>Municipality</b>	<b>Area Name</b>	<b>Acres</b>
GREAT BARRINGTON	AGAWAM LAKE WMA	127
STOCKBRIDGE		364
	<b>Sub-total</b>	<b>491</b>
BECKET	BECKET WMA	219
	<b>Sub-total</b>	<b>219</b>
WILLIAMSTOWN	BULLOCK LEDGE NHA	16
	<b>Sub-total</b>	<b>16</b>
COLRAIN	CATAMOUNT WMA	462
	<b>Sub-total</b>	<b>462</b>
CHESHIRE	CHALET WMA	1,759
DALTON		3,398
LANESBOROUGH		814
WINDSOR		507
	<b>Sub-total</b>	<b>6,478</b>
CUMMINGTON	CUMMINGTON WMA	156
	<b>Sub-total</b>	<b>156</b>
BERNARDSTON	DARWIN SCOTT MEMORIAL NHA	28
	<b>Sub-total</b>	<b>28</b>
DALTON	DAY MOUNTAIN WMA	338
	<b>Sub-total</b>	<b>338</b>
DEERFIELD	DEERFIELD RIVER ACCESS	28
	<b>Sub-total</b>	<b>28</b>
SHEFFIELD	DOLOMITE LEDGES NHA	219
	<b>Sub-total</b>	<b>219</b>
HANCOCK	E. HOWE FORBUSH SANCTUARY	367
	<b>Sub-total</b>	<b>367</b>
WINDSOR	EUGENE MORAN WMA	1,619
	<b>Sub-total</b>	<b>1,619</b>
RICHMOND	FAIRFIELD BROOK NHA	127
	<b>Sub-total</b>	<b>127</b>
BECKET	FARMINGTON RIVER WMA	214
OTIS		1,066
	<b>Sub-total</b>	<b>1,280</b>
CHESTERFIELD	FISK MEADOWS WMA	598
	<b>Sub-total</b>	<b>598</b>
CHESTER	FOX DEN WMA	388
MIDDLEFIELD		1,724
WORTHINGTON		2,126
	<b>Sub-total</b>	<b>4,237</b>

LEE	GEORGE L. DAREY HOUSATONIC VALLEY WMA	189
LENOX		303
PITTSFIELD		312
	<b>Sub-total</b>	<b>804</b>
WESTFIELD	GRACE A. ROBSON SANCTUARY	8
	<b>Sub-total</b>	<b>8</b>
COLRAIN	GREEN RIVER ACCESS	20
	<b>Sub-total</b>	<b>20</b>
COLRAIN	GREEN RIVER WMA	46
WILLIAMSTOWN		499
	<b>Sub-total</b>	<b>546</b>
HANCOCK	HANCOCK WMA	197
	<b>Sub-total</b>	<b>197</b>
HAWLEY	HAWLEY NHA	130
	<b>Sub-total</b>	<b>130</b>
HINSDALE	HINSDALE FLATS WMA	1,548
	<b>Sub-total</b>	<b>1,548</b>
CHESTER	HIRAM H. FOX WMA	1,942
CHESTERFIELD		475
HUNTINGTON		936
WORTHINGTON		336
	<b>Sub-total</b>	<b>3,688</b>
SOUTHWICK	HONEY POT NHA	67
WESTFIELD		70
	<b>Sub-total</b>	<b>137</b>
NORTH ADAMS	HOOSAC RIVER ACCESS	5
	<b>Sub-total</b>	<b>5</b>
LEE	HOP BROOK WMA	365
TYRINGHAM		29
	<b>Sub-total</b>	<b>394</b>
DALTON	HOUSATONIC RIVER ACCESS	11
GREAT BARRINGTON		19
	<b>Sub-total</b>	<b>30</b>
CHESTER	JOHN J. KELLY WMA	358
	<b>Sub-total</b>	<b>358</b>
EGREMONT	JUG END FEN NHA	62
	<b>Sub-total</b>	<b>62</b>
STOCKBRIDGE	KAMPOOSA FEN NHA	68
	<b>Sub-total</b>	<b>68</b>
NEW MARLBOROUGH	KONKAPOT RIVER ACCESS	11
	<b>Sub-total</b>	<b>11</b>
LANESBOROUGH	LANESBORO NHA	89
	<b>Sub-total</b>	<b>89</b>

LEYDEN	LEYDEN WMA	359
	<b>Sub-total</b>	<b>359</b>
CHESTERFIELD	LILLY POND WMA	0
GOSHEN		208
	<b>Sub-total</b>	<b>209</b>
WEST STOCKBRIDGE	MAPLE HILL WMA	356
	<b>Sub-total</b>	<b>356</b>
HATFIELD	MILL RIVER ACCESS	8
	<b>Sub-total</b>	<b>8</b>
RICHMOND	NORDEEN MARSH NHA	28
	<b>Sub-total</b>	<b>28</b>
OTIS	OTIS WMA	105
	<b>Sub-total</b>	<b>105</b>
NORTHFIELD	PAUCHAUG BROOK WMA	160
	<b>Sub-total</b>	<b>160</b>
PERU	PERU WMA	3,368
WINDSOR		889
	<b>Sub-total</b>	<b>4,257</b>
ASHFIELD	POLAND BROOK WMA	101
CONWAY		579
	<b>Sub-total</b>	<b>680</b>
CUMMINGTON	POWELL BROOK WMA	260
	<b>Sub-total</b>	<b>260</b>
NORTHAMPTON	RAINBOW BEACH NHA	34
	<b>Sub-total</b>	<b>34</b>
BERNARDSTON	SATAN'S KINGDOM WMA	816
NORTHFIELD		783
	<b>Sub-total</b>	<b>1,599</b>
CHESHIRE	SAVOY WMA	3
SAVOY		970
WINDSOR		253
	<b>Sub-total</b>	<b>1,226</b>
NORTHAMPTON	SHEPERDS ISLAND	15
	<b>Sub-total</b>	<b>15</b>
SOUTHAMPTON	SOUTHAMPTON WMA	128
	<b>Sub-total</b>	<b>128</b>
CHESHIRE	STAFFORD HILL WMA	1,572
WINDSOR		21
	<b>Sub-total</b>	<b>1,593</b>
WILLIAMSTOWN	TACONIC MOUNTAIN WMA	158
	<b>Sub-total</b>	<b>158</b>
MONTGOMERY	TEKOA MOUNTAIN WMA	424

RUSSELL		735
	<b>Sub-total</b>	<b>1,158</b>
GREAT BARRINGTON	THREE MILE POND WMA	7
SHEFFIELD		1,107
	<b>Sub-total</b>	<b>1,115</b>
BECKET	WALNUT HILL WMA	89
MIDDLEFIELD		847
	<b>Sub-total</b>	<b>936</b>
PITTSFIELD	WESTERN DISTRICT H.Q.	3
	<b>Sub-total</b>	<b>3</b>
CHESTER	WESTFIELD RIVER ACCESS	5
CHESTERFIELD		130
CUMMINGTON		41
MIDDLEFIELD		3
WINDSOR		43
WORTHINGTON		46
	<b>Sub-total</b>	<b>268</b>
WESTFIELD	WESTFIELD WMA	487
	<b>Sub-total</b>	<b>487</b>
DEERFIELD	WHATELY GREAT SWAMP WMA	28
WHATELY		442
	<b>Sub-total</b>	<b>470</b>
WHATELY	WHATELY WMA	306
	<b>Sub-total</b>	<b>306</b>
WILLIAMSBURG	WILLIAMSBURG WMA	92
	<b>Sub-total</b>	<b>92</b>
	<b>TOTAL ACRES</b>	<b>40,765</b>

Source: MassGIS

**Appendix XII.** Comparison of USDA Forest Service FIA Data & MassGIS Landuse Data.

**Table AR0. Land area by subsection and land class, Massachusetts, 1998.**

<b>Ecoregion subsection</b>	<b>Ecoregion Name</b>	<b>Forest<sup>1</sup></b>	<b>Percent forest</b>	<b>Non-forest</b>	<b>Percent nonforest</b>	<b>Total</b>	<b>MassGIS acres</b>	<b>% Discrep.</b>
M212Cc	Berk-VT Uplands	438,886	89.6%	50,800	10.4%	489,686	433,947	-11.4%
221Ae	Hudson Highlands	214,482	78.8%	57,714	21.2%	272,196	304,918	12.0%
M212Cd	S. Green Mtns.	12,868	100.0%	0	0.0%	12,868	20,500	59.3%
M212Cb	Taconic Mtns	171,570	77.7%	49,342	22.3%	220,911	236,067	6.9%
M212Bb	So. VT Piedmont	119,619	88.5%	15,584	11.5%	135,203	138,573	2.5%
<b>Totals</b>		<b>957,425</b>	<b>84.7%</b>	<b>173,440</b>	<b>15.3%</b>	<b>1,130,865</b>	<b>1,134,005</b>	<b>0.3%</b>

Note: The accuracy of this data is suspect since the total acreages are significantly different in some cases than the known acreages for the ecoregions.

<sup>1</sup> Forest = at least 10% stocked and not in another landuse...

# Appendix XIII.

## Average Annual Net Growth and Removals of Sawtimber Volume on Timberland by Species 1984 - 1997

Species	Statewide Net Growth (MBF)	BKs Net Growth (MBF)	Statewide Removal Totals (MBF)	BKs Total Removals (MBF)
Atlantic white-cedar	1,582	0	0	0
Eastern redcedar	40	0	0	0
Balsam	1,600	447	-387	-387
Tamarack (native)	-166	-166	0	0
Red spruce	6,909	2,490	-716	-716
E. white pine	111,312	17,429	-43,468	-10,279
Red pine	-333	931	-827	-550
Pitch pine	1,753	0	-3,307	0
Scotch pine	2,362	2,329	0	0
Northern white-cedar	0	0	0	0
E. hemlock	46,864	35,551	-3,146	-1,513
<b>Softwood subtotal</b>	<b>171,923</b>	<b>59,011</b>	<b>-51,851</b>	<b>-13,445</b>
Red maple	43,978	18,865	-6,732	-2,821
Silver maple	2,430	0	-949	0
Sugar maple	4,825	1,587	-1,224	-630
Yellow birch	5,133	4,110	-13,865	-13,865
Sweet birch	12,369	5,834	-1,609	-1,609
Paper birch	6,135	4,002	-458	-458
Hickory	311	0	0	0
Bitternut hickory	1,656	986	0	0
Pignut hickory	1,495	399	-1,255	-1,255
Shagbark hickory	1,702	755	0	0
American beech	5,057	3,264	-775	-775
White ash	16,057	10,115	-2,515	-2,515
Black ash	1,356	1,356	-382	-382
Butternut	181	0	-1,910	0
Blackgum	577	0	-303	0
Yellow-poplar	1,135	962	0	0
Eastern cottonwood	635	0	0	0
Bigtooth aspen	4,510	3,273	0	0
Quaking aspen	4,144	3,090	-369	-369
Black cherry	19,454	16,499	-427	0
White oak	5,542	44	-3,717	0
Swamp white oak	0	0	-515	0
Chestnut oak	1,031	550	-251	-251
Scarlet oak	9,055	-5	-4,804	0
Northern red oak	47,748	10,423	-27,540	-3,989
Black oak	18,752	812	-10,376	0
Black locust	0	0	0	0
American elm	334	0	0	0
Slippery elm	178	0	-484	0
American basswood	623	327	0	0
<b>Hardwood totals</b>	<b>216,504</b>	<b>87,248</b>	<b>-80,460</b>	<b>-28,919</b>
<b>Totals</b>	<b>388,427</b>	<b>146,259</b>	<b>-132,311</b>	<b>-42,364</b>

Source: USDA FS / FIA

# Appendix XIV.

## Net volume of sawtimber trees on timberland by ecoregion and species 1998.

Species	HH <sup>1</sup> (MMBF)	SVT P <sup>2</sup> (MMBF)	TM <sup>3</sup> (MMBF)	BK-VT U <sup>4</sup> (MMBF)	SGM <sup>5</sup> (MMBF)	Totals (MMBF)
Atlantic white-cedar	0.00	0.00	0.00	0.00	0.00	0.00
Eastern redcedar	0.00	0.00	0.00	0.00	0.00	0.00
Balsam fir	0.00	0.00	0.00	5.1	0.00	5.10
Tamarack (native)	0.00	0.00	0.00	2.90	0.00	2.90
Red spruce	24.40	6.30	41.00	82.20	0.00	153.90
E. white pine	492.40	141.30	191.80	263.20	0.00	1,088.70
Red pine	5.30	14.60	28.10	0.00	0.00	48.00
Pitch pine	0.00	0.00	0.00	0.00	0.00	0.00
Scotch pine	23.60	0.00	0.00	0.00	0.00	23.60
Northern white-cedar	0.00	0.00	0.00	0.00	0.00	0.00
E. hemlock	405.20	256.60	112.50	472.20	2.90	1,249.40
<b>Softwood subtotal</b>	<b>950.90</b>	<b>418.80</b>	<b>373.40</b>	<b>825.60</b>	<b>2.90</b>	<b>2,571.60</b>
Yellow poplar	0.00	0.00	12.30	0.00	0.00	12.30
Red maple	144.90	124.80	153.60	481.20	3.30	907.80
Silver maple	0.00	0.00	0.00	0.00	0.00	0.00
Sugar maple	87.60	54.60	105.10	247.20	3.20	497.70
Yellow birch	39.60	34.20	23.60	91.00	4.10	192.50
Sweet birch	52.80	96.00	31.80	36.00	0.00	216.60
Paper birch	38.40	10.10	12.20	73.30	0.00	134.00
Hickory	0.00	0.00	0.00	0.00	0.00	0.00
Bitternut hickory	0.00	0.00	0.00	0.00	0.00	0.00
Pignut hickory	7.00	0.00	0.00	0.00	0.00	7.00
Shagbark hickory	4.20	13.40	0.00	0.00	0.00	17.60
American beech	0.00	62.40	9.00	178.80	0.00	250.20
White ash	73.50	45.90	95.30	191.00	0.00	405.70
Black ash	0.00	0.00	14.50	0.00	0.00	14.50
Butternut	0.00	0.00	0.00	0.00	0.00	0.00
Blackgum	0.00	0.00	0.00	0.00	0.00	0.00
Yellow-poplar	0.00	0.00	0.00	0.00	0.00	0.00
Eastern cottonwood	0.00	0.00	0.00	10.80	0.00	10.80
Bigtooth aspen	57.10	3.50	60.80	0.00	0.00	121.40
Quaking aspen	4.70	5.50	34.60	2.70	0.00	47.50
Black cherry	106.50	15.40	74.30	299.10	3.00	498.30
White oak	10.30	3.60	7.20	0.00	0.00	21.10
Swamp white oak	0.00	0.00	0.00	0.00	0.00	0.00
Chestnut oak	21.90	0.00	0.00	0.00	0.00	21.90
Scarlet oak	0.00	0.00	1.70	0.00	0.00	1.70
Northern red oak	120.30	83.00	171.40	175.60	0.00	550.30
Black oak	28.70	13.80	16.00	0.00	0.00	58.50
Black locust	0.00	0.00	0.00	0.00	0.00	0.00
American elm	0.00	0.00	0.00	0.00	0.00	0.00
Slippery elm	0.00	0.00	0.00	0.00	0.00	0.00
American basswood	0.00	0.00	0.00	20.40	0.00	20.40
Bur oak	23.50	0.00	0.00	0.00	0.00	23.50
<b>Hardwood Totals</b>	<b>821.00</b>	<b>566.20</b>	<b>823.40</b>	<b>1,807.10</b>	<b>13.60</b>	<b>4,031.30</b>
<b>ER Totals</b>	<b>1,771.90</b>	<b>985.00</b>	<b>1,196.80</b>	<b>2,632.70</b>	<b>16.50</b>	<b>6,602.90</b>

<sup>1</sup> Hudson Highlands

<sup>2</sup> Southern Vermont Plateau

<sup>3</sup> Taconic Mountains

<sup>4</sup> Berkshire - Vermont Upland

<sup>5</sup> Southern Green Mountains

Source: USDA FS / FIA

## Appendix XV. Impervious Surface Estimates for the Berkshire Ecoregions / Land Type Associations

### Taconic Mountains Ecoregion Taconic Highlands Association Western New England Marble Valley Association

ECOREGION		Taconic Mountains					
Land Type Associations		THA <sup>4</sup>	THA	WNMV <sup>5</sup>	WNMV	TOTAL	TOTAL
Land Use	IC <sup>1</sup>	AC <sup>2</sup>	IAE <sup>3</sup>	AC	IAE	AC	IAE
Cropland	0.01	2,991	30	14,911	149	17,902	179
Pasture	0.01	1,520	15	6,478	65	7,998	80
Forest	0.01	72,681	727	83,781	838	156,461	1,565
Nonforested Wetland	0.01	222	2	4,719	47	4,941	49
Mining	0.01	12	-	911	9	924	9
Open Areas with no vegetation	0.01	1059	11	6126	61	7,185	72
Participation Recreation	0.02	1,104	22	2,402	48	3,506	70
Spectator Recreation	0.02	-	-	66	1	66	1
Water Based Recreation	0.02	3	0.0596	29	1	32	1
Multifamily Residential	0.80	65	52	544	436	610	488
High Density Residential	0.57	20	12	5,919	3,374	5,939	3,385
Medium Density Residential	0.13	47	6	5,654	735	5,701	741
Low Density Residential	0.10	1,365	137	11,561	1,156	12,926	1,293
Saltwater Wetland	0.01	-	-	-	-	-	-
Commercial	0.90	47	42	2,296	2,066	2,343	2,109
Industrial	0.75	11	8	1,285	964	1,296	972
Urban Open	0.01	106	1	2,513	25	2,619	26
Transportation	0.75	-	-	735	551	735	551
Waste Disposal	0.01	-	-	295	3	295	3
Water	0.01	195	2	4,058	41	4,253	43
Woody Perennial	0.01	60	1	266	3	326	3
(missing data)	-	9,098	-	0,028	-	9	-
LTA Totals:		81,519	1,068	154,549	10,572		
Ecoregion Totals						236,068	11,639
OVERALL PERCENT IMPERVIOUS =			1%		7%		5%

<sup>1</sup> IC = Imperviousness Coefficient (An estimate of the proportion of a landuse that is considered to be impervious.)

<sup>2</sup> AC = Acres

<sup>3</sup> IAE = Impervious Acres Equivalent

<sup>4</sup> Taconic Highlands Association

<sup>5</sup> Western New England Valley Association

Note: Landuse data is from MassGIS 1999



**Hudson Highlands Ecoregion**  
*Berkshire Transition Association*  
*Western New England Marble Valley Association*

ECOREGION		Hudson Highlands					
Land Type Associations		BTA <sup>6</sup>	BTA	WNMV	WNMV	TOTAL	TOTAL
Land Use	IC	AC	IAE	AC	IAE	AC	IAE
Cropland	0.01	5,947	59.47	11,228	112	17,175	172
Pasture	0.01	3,733	37	4,030	40	7,763	78
Forest	0.01	194,284	1,943	45,637	456	239,921	2,399
Nonforested Wetland	0.01	3,415	34	2,974	30	6,389	64
Mining	0.01	450	4	100	1	550	5
Open Areas with no vegetation	0.01	3,110	31	1,990	20	5,100	51
Participation Recreation	0.02	848	17	726	15	1,575	31
Spectator Recreation	0.02	42	1	56	1	98	2
Water Based Recreation	0.02	24	-	4	-	28	1
Multifamily Residential	0.80	116	93	12	10	129	103
High Density Residential	0.57	581	331	57	33	638	364
Medium Density Residential	0.13	1,261	164	781	101	2,042	265
Low Density Residential	0.10	9,391	939	5,417	542	14,809	1,481
Saltwater Wetland	0.01	-	-	-	-	-	-
Commercial	0.90	287	258	223	200	510	459
Industrial	0.75	290	218	78	59	369	276
Urban Open	0.01	781	8	405	4	1,187	12
Transportation	0.75	263	197	80	60	343	257
Waste Disposal	0.01	129	1	55	1	185	2
Water	0.01	3,853	39	1,308	13	5,161	52
Woody Perennial	0.01	808	8	142	1	950	9
(missing data)	-	0.683	-	0.593	-	1	-
LTA Totals:		229,616	4,384	75,304	1,699		
<b>Ecoregion Totals</b>						304,920	6,083
<b>OVERALL PERCENT IMPERVIOUS =</b>			<b>2%</b>		<b>2%</b>		<b>2%</b>

<sup>6</sup> BTA = Berkshire Transition Association

Note: Landuse data is from MassGIS 1999

### Berkshire Vermont Upland Ecoregion

ECOREGIONS		BVU	
Land Use	IC	AC	IAE
Cropland	0.01	10,981	110
Pasture	0.01	6,902	69
Forest	0.01	374,492	3,745
Nonforested Wetland	0.01	8,266	83
Mining	0.01	463	5
Open Areas with no vegetation	0.01	5,447	54
Participation Recreation	0.02	1,403	28
Spectator Recreation	0.02	-	-
Water Based Recreation	0.02	42	1
Multifamily Residential	0.80	34	27
High Density Residential	0.57	726	414
Medium Density Residential	0.13	1,774	231
Low Density Residential	0.10	13,537	1,354
Saltwater Wetland	0.01	-	-
Commercial	0.90	519	467
Industrial	0.75	264	198
Urban Open	0.01	861	9
Transportation	0.75	710	532
Waste Disposal	0.01	70	1
Water	0.01	7,058	71
Woody Perennial	0.01	399	4
(missing data)	-	1	-
<b>Ecoregion Totals</b>		433,948	7,401
<b>OVERALL PERCENT IMPERVIOUS =</b>		<b>2%</b>	

Note: Landuse data is from MassGIS 1999

### Southern Vermont Piedmont Ecoregion

ECOREGIONS		SVP	
Land Use	IC <sup>1</sup>	AC	IAE
Cropland	0.01	9,753	98
Pasture	0.01	5,968	60
Forest	0.01	107,193	1,072
Nonforested Wetland	0.01	785	8
Mining	0.01	304	3
Open Areas with no vegetation	0.01	3,552	36
Participation Recreation	0.02	637	13
Spectator Recreation	0.02	-	-
Water Based Recreation	0.02	6	-
Multifamily Residential	0.80	22	18
High Density Residential	0.57	101	58
Medium Density Residential	0.13	814	106
Low Density Residential	0.10	5,993	599
Saltwater Wetland	0.01	-	-
Commercial	0.90	269	242
Industrial	0.75	120	90
Urban Open	0.01	294	3
Transportation	0.75	357	268
Waste Disposal	0.01	70	1
Water	0.01	984	10
Woody Perennial	0.01	1,349	13
(missing data)	-	1,521	-
<b>Ecoregion Totals</b>		138,574	2,696
<b>OVERALL PERCENT IMPERVIOUS =</b>		<b>2%</b>	

Note: Landuse data is from MassGIS 1999

### Southern Green Mountains Ecoregion

ECOREGIONS		SGM	
Land Use	IC <sup>1</sup>	AC	IAE
Cropland	0.01	301	3
Pasture	0.01	164	2
Forest	0.01	18,783	188
Nonforested Wetland	0.01	113	1
Mining	0.01	38	0
Open Areas with no vegetation	0.01	324	3
Participation Recreation	0.02	19	0
Spectator Recreation	0.02	-	-
Water Based Recreation	0.02	-	-
Multifamily Residential	0.80	-	-
High Density Residential	0.57	22	13
Medium Density Residential	0.13	58	8
Low Density Residential	0.10	528	53
Saltwater Wetland	0.01	-	-
Commercial	0.90	20	18
Industrial	0.75	2	1
Urban Open	0.01	25	0
Transportation	0.75	2	2
Waste Disposal	0.01	-	-
Water	0.01	93	1
Woody Perennial	0.01	7	0
(missing data)	-	0.799	-
<b>Ecoregion Totals</b>		20,500	293
<b>OVERALL PERCENT IMPERVIOUS =</b>		<b>1%</b>	

Note: Landuse data is from MassGIS 1999

## **Appendix XVI. Cultural Resource Management Guidelines**

### **Cultural Resource Management**

One of DCR's core functions is the protection of natural and cultural resources. Cultural Resource Management (CMR) is carried out within the planning bureau and includes inventory, assessment, preservation and interpretation. As with natural resources, cultural resources may be negatively affected by agency actions and programs. Through good planning and compliance with applicable laws, DCR can ensure the preservation of significant cultural resources for generations to come.

#### Staffing

DCR employs a staff archaeologist and a several preservation planners with expertise in historic buildings and landscapes. Staff provide technical assistance and planning leadership, oversee preservation projects and regulatory review processes, conduct fieldwork and develop management plans. They are also the liaison between DCR and the State Historic Preservation Office (SHPO), which in Massachusetts is the Massachusetts Historical Commission (MHC).

#### Regulatory Compliance

Cultural resources are protected from state and federally funded or approved activities under several laws including, but not limited to:

- M.G.L. Ch 9 ss 26-27c as amended by St 1988 c. 254.
- M.G.L. Chapter 38, section 6B (Massachusetts Unmarked Burial law)
- Massachusetts Environmental Policy Act (MEPA)
- Section 106 of the National Preservation Act of 1966

To comply with these laws, DCR must consult with the State Historic Preservation Office whenever a state action has the potential to impact historic or archaeological resources. In Massachusetts the SHPO is the Massachusetts Historical Commission (MHC). Cultural Resource Management staff members are available to coordinate the consultation process. In planning projects and activities that are subject to MHC review, schedules must allow for a 30 day review process.

The Division of State Parks and Recreation (when it was the former DEM) executed a Programmatic Memorandum of Agreement (PMOA) with the MHC that allows for some categorical exemptions from the review process. The PMOA is managed through CRM staff.

#### The Baseline Inventory

CRM staff is engaged in an ongoing program of inventory, survey and evaluation of cultural and archaeological resources as well as the nomination of significant sites to the State and National Registers of Historic Places. This information is maintained in the Cultural Resource Inventory, a baseline record of cultural and archaeological resources within DCR facilities. The Inventory is used to avoid or minimize impacts to sensitive cultural resources areas as well as to identify opportunities to enhance and interpret historic sites.

## Best Management Practices for Forestry

The protection of cultural resources fits well with the Massachusetts Forest Cutting Practices Act (FCPA) and its associated Best Management Practices, which if properly applied, should result in minimal soil compaction and erosion. In addition, some state agencies (e.g., the DWSP) have internal BMPs or requirements that go well beyond the FCPA, including the requirement that low-impact logging machinery be used in certain sensitive areas. It's likely that the greatest threat to cultural resources occurs on private lands, especially when forest cutting plans are not required or are not filed.

- *Internal Review of Proposed Silviculture Projects*

Without appropriate controls, forest management programs can be detrimental to archaeological resources. Modern harvesting methods employ a wide range of heavy machinery, some of which, because of weight distribution and/or tire characteristics, can do irreparable damage to prehistoric sites. Skidding logs can further disturb the soil and associated cultural resources. Operations also entail clearing areas for landings, turn-arounds, and access roads. Those archaeological sites that lie closest to the surface can be damaged by such activities. It is these same types of sites - those that are the youngest in time (i.e., the Early, Middle and Late Woodland) - that were most susceptible to destruction by the plow of the local farmer, and thus represent a relatively scarce piece of the archaeological record.

Accordingly, the foundation of EOE's Cultural Resource Management within the broader context is a process for reviewing proposed silvicultural operations. The review involves evaluating and assessing the impacts that harvesting could have on archaeological resources should they exist at any given operation.

- *Timber Sale Prescription Forms*

When appropriate (e.g., when an operation is planned for a known or predicted sensitive archaeological site), the foresters responsible for managing state forestlands should submit a Timber Sale Prescription Form to a professional Archaeologist for in-house review. The form should provide a detailed narrative of the proposed operation including: location and size, description of topography, forest cover and soils, goals of silvicultural operations, equipment limitations, important plant and wildlife communities, and hydrology. Known historic features should be added to the form.

- *Site-specific Review*

The primary analytical tool employed in the review of impacts to prehistoric archaeological sites is the evaluation of site location criteria.

### Prehistoric Sites

At no time in prehistory did human populations roam haphazardly and endlessly across the landscape. For approximately 12,000 years local Native American populations adapted to the changing climatic and environmental conditions around them. During this time, Native Americans adapted their tool kit and strategies in order to take advantage of the new resources and opportunities the new environmental conditions afforded.

The key criteria for determining the archaeological sensitivity of a given site include: degree of slope, presence of well-drained soils and proximity to fresh water. Other variables such as aspect, availability of stone suitable for tool-making and elevation above sea level, may also be factors. When one

or more of these variables are met, the locations are considered to have been an attractive for Native American habitation or subsistence activities. They are thus potentially sensitive for the existence of prehistoric sites. Accordingly such areas are classified as highly sensitive or moderately sensitive for prehistoric resources, and specific guidelines may be required for harvesting in such areas.

### Historic sites

As noted in section VII. Socio-Economic Resources, Cultural Resource Protection there are many historic and archaeological resources present in the Berkshire Ecoregions. These resources typically are not as fragile as prehistoric archaeological sites; nevertheless, depending on their condition, significance and location they may require specific management strategies to ensure their protection.

- *Harvesting Restrictions and Limitations*

For those silvicultural operations that will occur in locations that have been classified as highly or moderately sensitive for prehistoric resources, restrictions are recommended on the time of year and the types of equipment and techniques used. By employing restrictions on the harvesting operations that minimize ground disturbance, a compromise is achieved that allows the harvest to occur, while affording some protection to whatever archaeological resources may lie buried below the ground.

The following are types of restrictions/limitations that may be recommended for highly sensitive areas:

- the harvest should occur during the winter with frozen soil conditions;
- skidding should not be permitted;
- chainsaw-felling and the use of forwarders for log removal may provide the best protection of sites
- where mechanical felling and processing is desired, considerations should be given to soil disturbance and compaction; e.g., three-wheeled 'tricycle' feller-bunchers may disturb the soil too much through frequent small-radius turns and high ground pressure, while tracked machines distribute machine weight and reduce compaction. Machines with extendable booms further increase options for protecting cultural resources, by reducing ground travel and compaction and allowing trees to be pulled away from cultural sites before being dropped.

For those proposed operations that are classified moderately sensitive, one or more of the above restrictions may be recommended. For those rugged upland, or previously disturbed areas that fail to satisfy the basic site location criteria, restrictions on the season of the proposed harvest or the type of equipment may not be appropriate.

In some cases, particularly with large acreage sales, portions of a lot may satisfy some, or all of the site location criteria, while other portions satisfy none. In those situations, restrictions may be recommended for the sensitive portion of the operation, while the above harvesting restrictions would not apply in the other portions.

- *Vegetation Management at Historic Sites*

Vegetation, if left to grow unchecked in and around stone foundations, and other historic structures like dams, raceways, etc., will ultimately destroy these archaeological features. Accordingly, a limited and selective program of vegetation management is recommended. This same limited program has been employed on historic sites on the Division of Water Supply Protection (formerly MDC) Watersheds and its Reservations & Historic Sites.

Given limited resources, the control of vegetation growth in and around archaeological sites and historic buildings and structures is a high priority. The dislocation of foundation stones, and the spalling of cement caused by root activity are among the most immediate threats to some of the cultural resources of the Commonwealth.

As a recommended site stabilization and preservation technique, vegetation management should entail:

- Removal of most small to medium sized brush, saplings, and trees from on, and within archaeological features i.e., cellar holes and their foundation walls; channelized stream beds; mill dams; and historic buildings.
- Removal shall be by cutting as close to the ground as feasible. Vegetation should not be pulled, or otherwise dislodged in a manner that would affect root systems.
- Manual felling of trees may often be the best technique for removal. Where the terrain is sufficiently level and stable to support them, the use of tracked feller-bunchers may be better. These machines have a long reach that limits the need to bring equipment too close to the structure. They hold the tree as it is cut, then pick it up to remove it, thus there is no concern about the direction of the fall. Furthermore, the tracks tend to distribute the weight, thereby limiting compaction to buried deposits.

Cutting contracts should include clauses that direct the logger to take extra care and precautions around cellar holes/foundations etc.



## Appendix XVII. Summary of Public Input

### I. Issues, Concerns, and Opportunities Input (November 22, 2004 Public Meeting)

On November 22, 2004 a public meeting was held at the DCR Western Regional Office in Pittsfield to solicit input on the Issues, Concerns, and Opportunities for the Berkshire Landscape Assessment and Forest Management Framework. This initial meeting was attended by 56 people. Written remarks addressing the issues, concerns, and opportunities were received by 9 people. Below is an attendance list from this meeting, a summary of the input from both the meeting and those who provided written remarks, along with our responses to them. Additional input was derived from agency personnel on the issues, concerns, and opportunities. The public input above and the information gathered from the agencies were used to develop “Section IX. Issues, Goals, and Recommendations: Issues, Concerns, Opportunities / Goals / Recommendations” in the “Berkshire Landscape Assessment and Forest Management Framework”.

We greatly appreciate the time and attention devoted by all who participated in this public input process. We are confident that we have addressed the input provided and that the input resulted in a much better final version of this document.

#### A. List of Attendees from Public Meeting on Issues, Concerns, and Opportunities (November 22, 2004):

Bob	Lear	Berkshire Con. District
Jane	Winn	Berkshire Environmental Action Team (BEAT)
Rene'	Laubach	Berkshire Sanctuaries
Tad	Ames	Berkshire Natural Resources Council (BNRC)
Tom	Matuszko	Berkshire Regional Planning Council
Paul	Knauth	Crane & Company
Jim	DiMaio	DCR
Ken	Gooch	DCR
Mike	Fleming	DCR
Kristopher	Massini	DCR
Bob	Mellace	DCR
Joanne	Nunes	DCR
Jim	Rassman	DCR
Dave	Rob	DCR
Brian	Hawthorne	DFG / DFW
John	Scanlon	DFG / DFW
Pat	Swain	DFG / DFW / NHESP
Michael	Chapline	Eastern Ch. 4 Wheel Drive Assoc. (EC4WDA)
Bruce	Conroy, Jr.	EC4WDA, Reg. D
Aili	McKeen	EC4WDA, Reg. D
Nick	Thielker	Friends of Mt. Everett
Gregory	Cox	Massachusetts Forestry Association
Bernie	Bergeron	Massachusetts Wood Producers Association
John	Bartley	NETRA
Steve	Nordby	Northeast Association of 4WD Clubs
Paul	Karczmarczyk	Ruffed Grouse Society
Tim	Abbott	The Nature Conservancy (TNC)
Andy	Finton	TNC
Jess	Murray	TNC

Kay	Sadighi	TNC
Bill	Toomey	TNC
Shane	Bajnoci	W.D. Cowls, Inc.
Odin	Adolphson	Pittsfield, MA
Steve	AsPinall	Pittsfield, MA
Tom	Brule	Drury, MA
Anita	CaPeLess	Pittsfield, MA
Matt	Cartier	Pittsfield, MA
Gene	Chague	Lenox, MA
Craig	Drummond	Pittsfield, MA
Ben	Gosselin	Bennington, VT
Allen	Gray	Dalton, MA
Richard	Greowe	Lee, MA
Cliff	Hague	Lenoxdale, MA
Cathrine	Hibbard	Lee, MA
Fred	Hines	Williamstown, MA
Jeff	Kellogg	Pittsfield, MA
Anthony	Levesque	Dalton, MA
Betsy	Lewis	Pittsfield, MA
Todd	Morin	Lee, MA
Gail	Palmer	E. Otis, MA
Richard	Pantermehl	Ashfield, MA
Patty	Spector	Lenox, MA
Clarence	Walter	Cummington, MA
Mike	Ward	Pittsfield, MA
Ruth	Wheeler	Lenoxdale, MA
Joe	Zorzin	Peru, MA

**B. List of those who provided written input for the Issues, Concerns, and Opportunities:**

Paul	De Genaro	4 Wheel Drive Club
E. Heidi	Ricci	Mass Audubon
Garrett	Moore	Riverhead, NY
Jim	McGee	Becket, MA
Joseph	Levanti	Setauket, NY
Paul	Kimball-Smith	Mt. Grace Land Trust
Chris	Horgan	Stewards of the Sequoia
David	Brill	EC4WDA
Robert	Blair	Sayville, NY

**C. Summary of Public Input:**

The following are the issues, concerns, and opportunities as compiled at a public meeting held on November 4, 2004 at the DCR Regional Office in Pittsfield, MA, and from written input received for the “Berkshire Ecoregional Assessment and Management Framework”. Items # 1 – 10 below are the issues presented to those in attendance by James DiMaio, Chief Forester, from which to begin the discussion. The audience was asked to provide their thoughts/input on these issues, identify additional issues not

presented, and provide any additional comments that should be addressed in the development of the “Berkshire Landscape Assessment and Forest Management Framework”. Items # 11 – 24 below are the additional issues and comments provided by those in attendance that were not attributed directly to items #1 -10 and from written input received. It should be noted that the numbering sequence does not imply any ranking of priorities.

1. **The need to provide for biodiversity for the range of all species: early to mid to late successional forests.**

- Specific percentages as goals?

2. **Invasive species out competing native species.**

- Keep high value sites free of invasive species / jump on new occurrences.
- Widespread public education needed.
- State control over sale of invasive species.

3. **Unhealthy forests due to insects, diseases, non-native tree species, poor species composition.**

- Early detection, rapid response.
- Describe risk to dominant important tree species.
- Public education / outreach.

4. **The need for reserve areas for ecological and habitat objectives, research and education, control areas, and recreation.**

- Motorized recreation allowed?
- Size of reserves / number of reserves?
- Impact on PILOT payments and timber revenues?
- Open to the public?
- Do private lands contribute to reserves?
- Community input in reserves establishment?
- Protection beyond “Cutting Plan”?
- Financial planning for maintaining / policing reserves?
- What activities are allowed in reserves?

5. **The balance between reserves and areas managed for multiple-use purposes.**

- Net increase in harvesting on public lands while establishing reserves.
- Use best available information to plan reserves.
- Economic impact of reserves on towns that currently receive 8.5% of stumpage (make sure that in towns where reserves are established, a balance of economic return is achieved).
- Dedicate equal areas to manage for early successional habitats, long term.

- Commit to maintaining “traditional” forest uses such as recreation, including hunting and fishing.
  - Avoid non-renewable resource extraction and conversion to non-forest use.
  - There’s enough land to accommodate all uses, but all uses don’t have to occur on each acre.
  - Maintain access for disabled, usually motorized.
  - Berkshires receive lots of out-of-state recreational pressure that may not be sustainable.
  - Should Massachusetts public lands be managed primarily for State residents?
  - Berkshires should value economic impact of tourism on otherwise economically challenged area.
6. **The need to meet the Commonwealth’s Rare and Endangered Species and habitat needs.**
- Meet Massachusetts rare specie conservation needs.
  - Speedy clear resolution of “Forest Cutting Plans” within Natural Heritage polygons.
  - Provide funding for rare species conservation.
  - Don’t hold-up harvesting outside of Natural Heritage polygons.
7. **The need to maintain sustainable forests and a vibrant wood producing industry.**
- As or more important than forest resource issue.
  - To extent possible, forest products should be grown, harvested, processed and sold locally within Massachusetts.
8. **Fragmentation of lands due to land use changes, development, and parcelization.**
- How much forest cover is needed?
  - Incentives for private landowners to maintain large parcels in forest use.
  - This is the biggest contributor to habitat loss.
9. **The need to meet high water quality and quantity standards.**
- Ground water as well as surface water.
  - Maintaining a quality fishery is good standard.
  - Value of water as defining value of the forest.
10. **The need to reproduce forest of high quality such as Northern Red Oak, Cherry, etc.**
- Aesthetics of intensive management for Oak.
  - Recognize the tree species of high commercial value also provide good habitat.
  - Need to create / enhance markets for low value wood products.
  - Sell use of forest management to provide high quality wildlife habitat.

11. **Protecting Riparian Values.**
12. **Financial Business Plan for State Land Management.**
13. **Harvesting on public land should be environmentally sound.**
14. **Economic benefits of harvesting on public land should be reinvested into the forest / habitat / recreation, etc...**
15. **State must work with towns to ensure viable communities are maintained, especially relative to acquisition of public lands.**
16. **Opportunities for future meetings to be dedicated to single issues.**
17. **Lands purchased with sportsmen dollars should be managed to maximize hunting / fishing opportunities.**
18. **If “Green Certification” does not provide good economics, State should reconsider.**
19. **Encourage restoration/ maintenance of fire towers.**
20. **Recognize prescribed fire as a valuable management tool.**
21. **Fire Management Policy for Berkshires.**
22. **Impacts of “Acid Rain” on forest resources of the Berkshires.**
23. **Don’t just post in the “Environmental Monitor”, encourage all stakeholders when advertising public meetings.**
24. **Encourage public meeting for recreational uses.**

## **II. Summary of Comments Received following the Public Meeting held on June 22, 2005 on draft of the “Berkshire Landscape Assessment and Forest Management Framework” Document, and Responses from the “Core Team”.**

On June 22, 2005 a public meeting was held at the DCR Western Regional Office in Pittsfield to solicit input on a draft of the Berkshire Landscape Assessment and Forest Management Framework. The draft was posted on EOEA’s web site prior to the meeting. A presentation was provided to those attending on the contents of the draft. This meeting was attended by 48 people. Written comments on the draft were received from 29 people.

Below is an attendance list from this meeting, a summary of the input from those who provided written comments, along with our responses to them. Additional comments were derived from agency personnel on the draft. A number of comments were “editorial” in nature, and for the most part, these are not included in the list below. Some of the comments submitted are best addressed in the next phase of planning to be done on agency properties. However, a substantial number of changes were made to the draft and are presented here in the final version of the document in response to these comments. Substantial changes have been made to section VIII. “Issues, Goals, and Recommendations.

We greatly appreciate the time and attention devoted by all who participated in this public comment process. We are confident that we have addressed the comments provided and that they resulted in a much better final version of this document.

### **A. List of Attendees from Public Meeting on draft of “Berkshire Landscape Assessment and Forest Management Framework” (June 22, 2005)**

Tim	Abbott	Canaan, CT
Shane	Bajnoci	W.D. Cows, Inc.
Carrie	Banks	Riverways / Westfield Wild & Scenic
Thelma	Bates	Sierra Club
Susan	Benoit	Friends of Mohawk Trail S.F.(FMTSF)
Gary	Belvzo	HCC / MTSF
Cosmo	Catalano	MA Appalachian Trail Committee
Eve	Cholmar	Becket, MA
Greg	Cox	Massachusetts Forestry Association
Tony	D'Amato	UMass / Harvard Forest
Justin	Davis	Pittsfield, MA
Jim	DiMaio	DCR
Jeremy	Dunn	Becket, MA
Patricia	Elstren	Sheffield Land Trust
Andy	Finton	TNC
Mike	Fleming	DCR
Jose	Garcia	TTOR Member
Cande	Grieve	Sierra Club Member
Denis	Guyer	State Representative, 2 <sup>nd</sup> Berkshire Dist.
Brian	Hawthorne	DFG / DFW
Lorraine	Hildemann	Pittsfield, MA
Mark	Jester	DCR Board
Rene	Lanbach	Mass Audubon
Robert	Leverett	FMTSF
Leslie	Luchonok	DRC

Thomas	Marini	Pittsfield, MA
June Ann	Mason	Sierra Club Member
Tim	McGee	Becket, MA
Bob	Mellace	DCR
Barton	Ogden	Pittsfield, MA
Kathy	Orlando	Sheffield Land Trust
Judith	Pierce	Mass Audubon Member
Teah	Quinn	Senator Nuciforo
Jim	Rassman	DCR
Rob	Robinson	Berkshire Chapter AMC
Henry	Rose	Pittsfield, MA
Keith	Ross	Landvest
Norman	Schroeder	B.N.R.C.
Patricia	Swain	DFW / NHESP
Nick	Thielker	Friends of Mt. Everett
Eleanor	Tillinghast	Green Berkshires
Bill	Toomey	The Nature Conservatory
Jeff	Turner	Sierra Club Member
Dominick	Villane	Pittsfield, MA
Eileen	Vining	Appalachian Trail LT
John	Wheller	Berkshire Mycological Society
Jane	Winn	BEAT
Julie	Wormser	Appalachian Club Member
Joe	Zorzin	Peru, MA

**B. List of those who provided Written Comments:**

Jesse	Brownback	???
John	Clarke	Mass Audubon
Patricia	Cote	Hampden, MA
Dennis	Cronin	unknown
Anthony	D'Amato	Harvard Forest / UMass?
Jeremy	Dunn	Becket, MA
Judith	Eiseman	Kestrel Land Trust
Christine	Erb	unknown
Andy	Finton	TNC
MaryAnna	Foskett	Arlington, MA
Kristi	Frazier	Woburn, MA
Barnett	Goldstein	Mt. Washington, MA
Paul	Karczmarczyk	Roughed Grouse Society, et al
Andrew	Kendall	TTOR
Kathryn	Leary	Wilbraham, MA
Mike	McCarthy	W. Roxbury, MA
James	McGinness	W. Roxbury, MA
Steven	Moore	unknown
Dawn	Odams	Phillipston, MA
Jeffery	Penn	Huntington, MA
Ted	Raia	Cambridge, MA
Kathy	Richards	Athol, MA

Jeffery	Roberts	Newburyport, MA
Philip	Saunders, Jr.	Weston, MA
Narain	Schroeder	BNRC
Carol & Gerard	Stanley	Worcester, MA
Bob	Thompson	WRWSAC
Cheryl	Vallone	Ashland, MA
Hillary	Young	unknown

### C. Comments and Responses:

1. Comment:

- Move forward to adopt Forest Reserves quickly. Support Small & Large Reserves. Include maps of 6 reserves in Berkshire Ecoregional Assessment. Premature to set 20% Reserves & 80% active management target prior to evaluating of all lands? Exclude timber harvesting in Old Growth and include Old Growth sites as small and large reserves.

Response:

- Old Growth is the highest priority criteria used in the identification of both small and large scale Forest Reserves. Therefore, all Old Growth stands and areas will be included in any Forest Reserve System adopted.

2. Comment:

- October Mountain State Forest should be protected.

Response:

- October Mountain was not identified as a proposed Forest Reserve using established criteria due to the number of roads, utility lines, recreational uses, existing plantations, and uses currently found within October Mountain State Forest. However, it can be anticipated that a number of Forest Reserves ranging from small to moderately large may be identified in this State Forest during the District Resource Management Planning process.

3. Comment:

- State Forest Reserves should include Natural Heritage Priority Communities.

Response:

- The evaluation criteria for both small and large scale Forest Reserves included Natural Heritage Priority Natural Communities.

4. Comment:

- Use objective Criteria? Include Old Growth data in analysis? Mohawk Trail State Forest-Savoy Mountain State Forest / Berkshire-Vermont Ecoregion, ranked high but not selected, why? Reasons – political? administrative? List them?

Response:

- A Team of scientists and resource managers objectively established the Forest Reserve evaluation criteria and weighted each using the “Expert Choice” process/method. The same team of experts applied the weighted evaluation criteria to establish choice values for each of the twenty-three (23) potential statewide Forest Reserves. A large Forest Reserve is now



proposed for the Mohawk/Monroe State Forest and additional reserves for the Savoy State Forest.

5. Comment:

- Should include financial analysis re: timber values.

Response:

- An in-depth economic analysis for Forest Reserves was not conducted or included in the assessment/framework or the evaluation criteria. The assessment/framework factored social and economic considerations presented by the public who both supported and did not support forest reserves. The assessment also included estimated information on potential losses in revenue as a result of the establishment of forest reserves as well as increases in revenue as a result of implementing the entire assessment/framework recommendations. It is recognized that forest reserves, and forested areas in general, ecological services benefits. It was not the intent of the assessment/framework to calculate or determine the extent of the services.

6. Comment:

- Include areas of the Southern Taconics and Northern Hill Towns with Old Growth in Forest Reserves.

Response:

- These areas will be included in small and large scale Forest Reserves.

7. Comment:

- Include large tract habitat preserves.

Response:

- Large tract habitat will be provided in the small and large scale forest reserves, and in association with the greater surrounding forested landscape.

8. Comment:

- Support vision of Harvard Forests' "Wildlands and Woodlands" report. Establish 15 - 20 large reserves 250,000 acres of state land. Managed woodlands would comprise the remaining state-owned forests and an additional 1.5 million of privately owned forests, and an additional 1.5 million privately-owned forestland totaling 2.25 million acres. More now (fear of no private land available) less latter if additional harvesting/management needed.

Response:

- The proposed small and large scale Forest Reserves is equivalent to the percentage of protected forests in Reserves envisioned by the Harvard Forests Wildlands and Woodlands vision report. Their vision is based upon approximately 2.25 million acres of forest land that is recommended for permanent protection (250,000 acres of large reserves is approximately 10% of this total). The proposed small and large scale forest reserves recommended in this document are based on the premise that approximately 1 million acres are presently protected. The present small and large scale forest reserves proposal of approximately 20% forest reserves of current state forestland is generally supported by the public. Also, on close examination of state lands much of the land may not provide the quality attributes of Forest Reserves such as those used in the Evaluation Criteria. It should also be recognized that Massachusetts Land Trusts, other NGO, private citizens, be noted, and relevant municipal

lands have historically provided active support for land conservation measures that contribute to Forest Reserve attributes.

9. Comment:

- Develop and support EOEa Program for municipalities that deal with fragmentation and sprawl along old discontinued roads.

Response:

- The closing of old roads for the purpose of reducing fragmentation and sprawl must adhere to established Massachusetts and Federal Law. DCR and DFG often support such road closures but must consider the huge backlog of forest road maintenance on existing state lands.

10. Comment:

- Provide communities with compensation: Payment In Lieu Of Taxes (PILOT) payments and Commonwealth Capital.

Response:

- Revised Recommendations to “Sub-Issue 6.4c”.

11. Comment:

- All cutting plans should consider existing invasive species to insure that prescribed management is appropriate and will not serve to promote the spread of invasive species.

Response:

- Revised Recommendations to “Sub-Issue 1.4c”.

12. Comment:

- Creating markets for low value wood is essential to any plans for the creation and long-term maintenance of early successional habitat

Response:

- EOEa, DCR, and others are working to encourage the development of such markets. (See “ISSUES” – Recommendations: 6.3c and 6.5c).

13. Comment:

- Make stronger link between identified issues and recommended Forest Management Practices.

Response:

- Presently the Assessment/Framework links issues, state land goals, and recommendations directly. At this time we are not aware of ways to better link issues to recommendations.

14. Comment:

- Adequate funding to implement recommendations of this document.

Response:

- We are in agreement that adequate funding is essential to implement recommendations in the Assessment/Framework. EOEa has provided more than \$2.5 million in supplemental funding over the past 3 ½ years to support implementation of Green Certification requirements on state lands (\$1.7 million) and to fund Forest Stewardship Plans on 740

private parcels totaling 51,000 acres (\$850,000). We appreciate the support of others to assist in securing funding from all sources for the purpose of implementation and monitoring.

15. Comment:

- How are Forest Management Plans integrated with Comprehensive Management Plans (Ch 21 S. 2F)? Explain process. Assessment should be sent to DFW Board and DCR Stewardship Council for endorsement.

Response:

- All Ecoregional Assessments/Management Frameworks will be developed to document and assess natural resource landscape level data and information, broad private/public issues, and proposed recommended actions that particularly address the issues. State agencies will utilize this information to develop property level resource management plans that fulfill their agencies respective mission, legal mandates, and the conditions of green certification. Resource management plans will include public participation and approval by respective oversight authorities. At DCR the property Forest Management Plans will be utilized as part of future Comprehensive Management Plans.

16. Comment:

- The protection of sensitive sites and the accommodation of recreational needs and scenic values should supersede arbitrary target for % actively managed.

Response:

- The Ecoregional Assessments/Management Frameworks is premised on providing ecological, social, and economic sustainability per the conditions of “Green Certification”. The Assessment/Framework first provide for biological considerations such as rare species and their habitats, forest reserves including Old Growth portions of the 1830 area, etc., water quality, forest health, and in general sets standards for sustainable forests. Remaining lands, now as actively managed forests, contain a multitude of uses and opportunities, including: habitat diversity, quality aquatic systems, a variety of forest settings and experiences, and an opportunity for traditional uses and practices.

17. Comment:

- Majority of harvesting should occur on private forest land.

Response:

- The vast majority of harvesting will occur on private forest lands, the majority of which will come from clearing for development. Forest and Wildlife Management on State lands will meet the sustainability conditions of “Green Certification”.

18. Comment:

- 1830s areas should be treated as reserves except where old intact forests are no longer present.

Response:

- Forest Reserves include a considerable amount of 1830 areas. However, not all 1830 areas are in Forest Reserve areas. 1830 areas, not in Forest Reserve areas, may be managed for a variety of objectives over time. This management should keep in tact the soil structure that makes these lands different from those that had been previously disturbed by past agricultural practices.

19. Comment:

- No harvesting. All reserves. Timber yields small financial returns. Returns exceed personnel expenses. Other values more beneficial.

Response:

- Prohibiting harvesting would result in the agencies not being able to meet many of their goals and missions. The management of State lands allows agencies to provide for a diversity of wildlife, the ability to maintain forest health and water quality, etc... The forest products harvested provide substantial financial and employment opportunities for rural Massachusetts. The returns and benefits exceed State costs. Often, harvesting enhances ecological services at no cost to the taxpayer.

20. Comment:

- We are encouraged that the Executive Office of Environmental Affairs (EOEA) places a high priority on the retention of undeveloped forestland and the formulation of forest policy providing adaptive management options on public land. Active management provides the foundation for true biological diversity of the Commonwealth's wildlife, as all game and non-game wildlife species benefit when diverse habitat conditions are available on a landscape scale.

Response:

- There is support to implement adaptive management policy for forest resource management by EOEA agencies.

21. Comment:

- Public property should not support commercial interests.

Response:

- The legal mandates of EOEA agencies that manage the Commonwealths forests explicitly contain provisions for and requirements of active management with stumpage sold to the private sector and commercial interests. The assessment / framework recommends a thoughtful, careful ecological, economic, and social sustainable balance among all resources activities and uses.

22. Comment:

- Balance working woodlands, recreation and conservation.

Response:

- There is support for the current assessment/frameworks recommendation that carefully and thoughtfully balances forest mgmt., forest reserves, recreation and uses.

23. Comment:

- Support late successional habitat.

Response:

- There was support for the assessments recommendations concerning late and early successional habitat.

24. Comment:

- Assessment should reflect that early successional habitat varies from (increases) west to east via natural disturbances and should reflect this in planning.

Response:

- See 1.2c recommendations

25. Comment:

- Support actively managed reserves to attain early successional habitat goals.

Response:

- Early successional habitat may occur in Forest Reserves via natural disturbances. Early successional habitat, human created or maintained is not planned within Forest Reserves in order to achieve the purposes for which they are being maintained.

26. Comment:

- Prioritize APRs (Agricultural Preservation Restriction).

Response:

- Although not part of the assessment it is not recognized that working farms are an important part and complement forested landscapes. Concerns of farmland APR issues are better directly addressed through the Massachusetts Department of Agricultural Resources. Ongoing efforts to coordinate landscape open space protection program/efforts among state agencies, municipalities and NGOs need to continue.

27. Comment:

- ATV/ORV Licensing.

Response:

- See Sub-Issues 6.2c revised recommendations.

Comment:

ATV/ORV - designated routes only.

Response:

- ORVs/ATVs are restricted to designated trails. Currently DCR is assessing the use of all ORVs/ATVs on DCR / Division of State Parks and Recreation lands in order to minimize adverse environmental impacts.

28. Comment:

- Consider including the following items below at landscape level and interagency planning: size and location of large reserves; age structure across landscape level (distributed); extended rotation and early seral habitat; distribution of native forest communities; interior forest habitat patch size and connectivity.

Response:

- There is support for the assessments/frameworks landscape level and inter-agency planning recommendations concerning reserves, age and distribution of extended rotation and early seral habitat, native forest communities, and interior forest habitat patch size, and connectivity.

29. Comment:

- State should be a good example of sustainable forestry integrated with other public uses for private and municipal owners. Support efforts to increase land protection (implement

Statewide Land Conservation Plan). Increase and improve participation in CH 61/61A. Maintain working forest landscape around forest reserves.

Response:

- There is also support for sustainable forestry integrated with other uses, increased land protection, and the working forest concept around forest reserves. EOEa agencies have focused on protecting land mapped by the SLCP (over 70% of land protected via EOEa funding over the past 3 ½ years – other 30% is mostly grants to cities and towns for local priorities). EOEa agencies have been working with State Legislature to draft new amendments to Chapter 61 that will encourage increased participation in the program. DCR has added 50,000 acres to the Forest Stewardship Program over the past 3 ½ years via EOEa funding of forest management plans.

30. Comment:

- Data misleading? Does not show larger size classes?

Response:

- FIA data does not allow for figures to be adjusted which display all size classes including larger diameter trees (softwoods and hardwoods measurements are different).

31. Comment:

- Include Old Growth research in report. Include Mohawk Trail State Forest-Savoy Mountain State Forest 5K reserve & Monroe State Forest - 2.5K reserve. Benchmarks/Scientific references for active management and effects on biodiversity.

Response:

- Old Growth information is included in the final assessment/framework, including a map of the proposed large scale reserves and alternatives. See Sub-Issue 1.3c (recommendations), which includes evaluating portions of MTSF and SMSF as a forest reserve. Also, see Sub-Issue 1.3c recommendations, which include long- term ecological monitoring for forest reserves and active management. EOEa agencies have contracted UMass to design a reserve/working forest monitoring system with input from forest experts from outside the state as well as state staff.

32. Comment:

- Clarify Old Growth. 3 types - never harvested, lightly harvested, and restored to climax. All forests now influenced by acid rain, & non-native trees, etc.

Response:

- Information on the 3 Old Growth types/classes is provided in the Appendix of the assessment/framework. It is recognized that all forests including OG are influenced by a number of factors, such as acid rain, climate change, etc. that are beyond the scope of the assessment/framework. Non-native species is address in Sub-Issue 1.4.

33. Comment:

- Coordinate "Statewide guidance for sighting wind energy facilities"; Statewide Comprehensive Wildlife Conservation Strategy"; and "Ecoregional Assessments / Frameworks" for recommendation consistency. Address Landscape Level Ecosystem, fragmentation and biodiversity impacts.

Response:

- In regard to wind energy, there is agreement that all EOEALandscape level planning activities need to be coordinated to ensure consistency in their recommendations.

34. Comment:

- Are any areas to have human activity prohibited or passive only (no trails; snowshoe/hike only)?

Response:

- At this time Forest reserves that prohibit all human developments are not planned. Planned forest reserves presently include limited recreational opportunities on developed trails and off trail hiking, snowshoeing, etc...

35. Comment:

- Clarify Forever Wild discussion - are there practices which should encourage or discourage use of chemical treatments, blow-down or damage repair, invasive removals or native plant restoration?

Response:

- The assessment/framework did not include the “Forever Wild” concept. However, the individual concepts such as use of chemicals, blow-down, invasive plants, native species, etc. were included.

36. Comment:

- Fragmentation statement misleading?

Response:

- See revised text in Section III under the heading: Landuse Trends and Forest Fragmentation

37. Comment:

- Issue: Site plans, coordinate with NHESP. Protect unmapped communities and species as small reserves or protect through special conditions in forest management operations. Vernal Pools should be protected even if not certified. Also address in "Section IX Mgmt. Framework".

Response:

- Resource management plans and site specific forest cutting plans are coordinated with NHESP. Rare species, vegetative communities and landforms are managed according to the level of protection necessary. Where needed these lands will have maximum protection measures. Vernal Pools will be protected according to Massachusetts Forestry Best Management Practices. It appears that Section IX “Management Framework” includes the legislative and regulatory mandates that deal with these issues. DCR contracted with NHESP program to develop “Best Conservation Practices” for the ten listed species that occur most frequently in Forest Cutting Plans and plans to develop additional BCP’s in the next year.

38. Comment:

- Support increased late successional forest in the assessment/framework. Use of “Selective Cutting” and the retention of large trees. Present data by age/size class distribution for desired targets (Fig 15 / Table. 10 should be like Fig. 20 breakdown). Also address in "Section IX Mgmt. Framework"

Response:

- Please note that neither Sub-Issue 1.3 nor the assessment/framework documents a lower than desired amount of late successional forest and old/large trees across the forested landscape. However, the assessment/framework does recommend the establishment of forest reserves as a means to provide for late successional habitat. The State does not recognize the “Selective Cutting” method as a silvicultural system. The small group and individual tree “Selection System” will be used as part of “uneven aged management” within forest management plans. Further details are needed to better address the intent of selective cutting methods identified. Resource Management Plans will address the retention of individual trees and desired targets for species composition, age, and size class distribution.

39. Comment:

- Need more specific information on how potential risks for invasive species introduction during Forest Management Practice activities will be managed and minimized. Berkshire Assessment should address and support implementation of the Department of Agricultural Resources ban/phase out of 140 invasive species plants. Also address in "Section IX Mgmt. Framework".

Response:

- Sub-Issue 1.4 “Native Species” and 4.1 “Unhealthy Forests” address invasive species concerns. Specific details on invasive species management will occur in Resource Management Plans. EOEa supports the DAR ongoing effort of banning the sale of noxious plants in the Commonwealth. Information on the DAR ban, which went into effect on January 1, 2006, is included in the assessment.

40. Comment:

- Goals and recommendations do not reflect all values identified. Goals and recommendations should also address other values (i.e. - fisheries & riparian upland forests).

Response:

- Sub-Issue 5.1c. via the recommendations to promote and implement MA Forest Best Management Practices for water, riparian, and soils inclusively addresses this issue.

41. Comment:

- Address concern and establish Standard Operating Procedures / Best Management Practices addressing ATV/ORV unauthorized access control from FMPs/roads. Also address in "Section IX Mgmt. Framework".

Response:

- ATVs/ORVs use is authorized only on designated trails. Sub-Issue 6.2 addressed unauthorized use via law enforcement, education, and licensing. There is no need to further address this issue in Section IX.

42. Comment:

- Commonwealth should develop “Fire Management Plans”, except Berkshires. Most of Massachusetts is a fire adapted ecosystem. Fire use can be beneficial for invasive species control.



Response:

- DCR has developed a number of Fire Management Plans and recognizes the fire history, fire potential, and potential uses of prescribed burning. See Sub-Issue 7.4...

43. Comment:

- Need to evaluate available biomass and establish harvest and harvest method targets on public and private land to promote good sustainable management. Without, there is a risk of creating a new set of unsustainable forestry practices. Not all net growth should be used for bio-energy. Net Growth sequesters carbon. Trading program would be beneficial. Also address in "Section IX Mgmt. Framework".

Response:

- Sub-Issue 6.3c (recommendations) includes the development of a forested resource study within the ecoregions, which will include existing future and sustainable levels of low grade forest biomass (this study will begin later in 2006 with a recently received federal energy grant). The intent of the assessment/framework and subsequent agency resource management plans is to provide for a long term sustainability of all resources. The State and potential bio-energy interests are not interested in facilities that result in unsustainable forest practices. Furthermore, it is not assumed that all net growth will be harvested for bio-energy. In addition net growth does sequester carbon, which is a benefit. However, the harvesting in subsequent benefits of removing low value, poorly formed, damaged trees may result in the sequestering of the higher amounts of carbon with far greater ecological and social economic values. The State has participated with other New England States in training and discussions on carbon trading systems. At this time carbon trading systems are not well established and insufficient data exists to determine how effective they are.

44. Comment:

- Broaden range of options ch61/61A to address larger issue of forestland conversion to development. Also address in "Section IX Mgmt. Framework"

Response:

- The assessment identifies broad approaches to meet the desired goals of maintaining open forest space in current use. The intent of the assessment is to comprehensively, in an integrated fashion address the issues where possible. Although working forests and fragmentation are separate sub-sections they are tied to each other as well as all sub-sections of the assessment including forestland values and economics. The "Forest Management Framework" was designed for forest management on State lands, vs. private and municipal lands. EOEA agencies are working with the State Legislature to amend Chapter 61 based on input from the forestry and conservation communities to increase enrollment in this program.

45. Comment:

- Make trail users trail managers. ATV use will be there. Create "thruways" with management practices, "ride the crown and pack it down".

Response:

- Agencies are responsible for all trails. Partners, trail adopters, etc. will be encouraged to assist and participate in the management of trail systems.

46. Comment:

- ATV management plan and strategy for use on public land. Most trails poorly designed/adapted to ATV use. Provide funds for correct design and layout.

Response:

- DCR currently is assessing ATV/ORV policies. This effort together with resource management planning will identify ORV/ATV opportunities, trail standards, and funding for the design, layout, construction, and maintenance of trails.

47. Comment:

- Add: "Identify local community ecological, economic and quality of life issues and needs." Diffuse Big Brother/Government feel.

Response:

- Providing sustainable ecological, economic, and social factors assists in the quality of life issues in local communities.

48. Comment:

- DCR / DFW mark boundaries and map.

Response:

- This is an operational issue and will be addressed in District Planning efforts.

49. Comment:

- County Road Status? Close and return to natural state if unneeded?

Response:

- This is an operational issue and will be addressed in District Planning efforts.

50. Comment:

- State offer to private lands adjacent to reserves.

Response:

- The State is considering working with private landowners enrolled in Ch61/61A in obtaining Green Certification for the entire program. By the state funding the certification effort, it removes a limiting factor in private land certification which is securing the finances to obtain and maintain certification.

51. Comment:

- Support Green Certification to promote and achieve sustainable Forest Management efforts.

Response:

- There is support for the Green certification process that provides for the sustainability of our State forest resources. When the certification of Chapter 61 and Forest Stewardship Program lands is complete, there will be nearly one million acres of certified forests in the state.